ROCKY MOUNTAIN ARSENAL

NORTH BOUNDARY CONTAINMENT/TREATMENT SYSTEM

OPERATIONAL ASSESSMENT REPORT

FY88

FINAL REPORT

BY

TECHNICAL OPERATIONS DIVISION
PROGRAM MANAGER, ROCKY MOUNTAIN ARSENAL
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THIS REPORT WAS PREPARED TO DOCUMENT AND ASSESS THE STATUS AND OVERALL OPERATIONAL PERFORMANCE OF THE NORTH BOUNDARY CONTAINMENT/TREATMENT SYSTEM. IT COVERS THE PERIOD OCTOBER, 1987, THROUGH SEPTEMBER, 1988.

THE OBJECTIVES OF THE REPORT INCLUDE:

1. ASSESS THE CONTINUING EFFECTIVENESS OF THE NORTH BOUNDARY SYSTEM IN PREVENTING OFF-POST MIGRATION OF CONTAMINATED GROUND WATER
2. DOCUMENT SYSTEM OPERATING PARAMETERS
3. IDENTIFY AND DOCUMENT SYSTEM IMPROVEMENTS AND FACILITY ALTERATIONS CONDUCTED DURING FY88.

APPENDICES INCLUDE:

1. PLANT FLOW DATA
2. PLANT WATER QUALITY DATA
3. DEWATERING WELL DATA.

14. SUBJECT TERMS
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PREFACE

This study was conducted as part of a cooperative effort by personnel from the Technical Operations Division (TOD) of the Program Manager for Rocky Mountain Arsenal (PMRMA) and the U.S. Army Engineer Waterways Experiment Station (WES). Funding for participation by WES was provided by the PMRMA via Intra-Army Order No. 0489. Project Management was provided by Messrs. David W. Strang, TOD, and Norman R. Francingues, WES Environmental Laboratory (EL).

This study is part of a continuing assessment of the operational status of the North Boundary Containment/Treatment System at Rocky Mountain Arsenal (RMA). Previous work has been reported in reports entitled "North Boundary Containment/Treatment System Performance Report Vols I and II," by Messrs. Douglas W. Thompson, Edwin W. Berry, Brian L. Anderson, James H. May, and Richard W. Hunt, December 1985, that addressed the system operations during FY84; "Rocky Mountain Arsenal North Boundary Containment/Treatment System Operational Assessment Report Vols I, II, and III," June 1987, that addressed system operation during FY85 and FY86, and "Rocky Mountain Arsenal North Boundary Containment/Treatment System Operational Assessment Report, FY87, Final Report," that addressed system operations during FY87.

The contributing authors to this report were Messrs. Douglas W. Thompson, Jack H. Dildine, Norman R. Francingues (WES-EL) and Richard J. Lutton (WES-GL). The report was prepared under the direct supervision of Messrs. David W. Strang (TOD), Norman R. Francingues (WES-EL) and James H. May (WES-GL). The study and report were authorized by the PMRMA.

The authors acknowledge the support and assistance of the following people and organizations during this study: Mr. Jack Pantleo, Mr. Jim Clark and Ms. Dianna Reynolds, D. P. Associates and personnel of the Rocky Mountain Arsenal Information Center (RIC).

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NORTH BOUNDARY CONTAINMENT/TREATMENT SYSTEM OPERATIONAL ASSESSMENT FY88 ACTIVITIES

PART I: INTRODUCTION

Background

1. The North Boundary Containment/Treatment System* Operational Assessment described herein is the fourth in a set of reports prepared to document performance related to the boundary system operations. This report covers the operating period of October 1987 through September 1988 (FY88).

2. The report incorporates by reference major system descriptions and previous operations described in the report entitled "North Boundary Containment/Treatment System Performance Report" (Thompson et al. 1985). A chronology of events leading up to the expanded system construction, descriptions of detailed construction features, and geologic and hydrologic system descriptions is also described by Thompson et al. (1985). The reader is directed to the basic report for detailed information concerning the history and physical description of the system. The report is cataloged under the document 86078R01 at Rocky Mountain Arsenal Information Center (RIC).

Report Objectives

3. The objectives of this report are to document system operating parameters and performance during FY88, and, to identify and document system improvements and facility alterations implemented during FY88.

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* Hereinafter referred to as North Boundary System.

Approach

4. The Technical Operation Division (TOD) PMRMA provided the data bases and general technical guidance. The U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi (WES), provided specialized Environmental Engineering and Geotechnical assessments.

5. The study was conducted in three phases. Data were retrieved and organized by the TOD and Rocky Mountain Arsenal Information Center (RIC). The data bases were reviewed for completeness prior to conducting various system performance evaluations. During the course of study, several in-progress reviews and coordination working sessions were held at RMA to facilitate exchange of information and to assure continuity and consistency in data interpretations and evaluations. Finally, the report was assembled from individual sections prepared by the various contributing authors.

PART II: PLANT OPERATIONS MONITORING

6. The treatment plant monitoring program included collection of data on flow rates through the system and on the quality of the water entering and leaving the plant. The flow quantities were obtained from individual totalizing flow meters located upstream of each adsorber and on the combined effluent stream. The meters were read, and the values were recorded on a daily basis. Weekly flow quantities were calculated from the daily reports. Weekly flow rates were calculated by dividing the total flow for the week by 10,080 minutes per week. Flow rates for the dewatering and recharge wells were obtained from individual flow meters located in Building 808 (the treatment plant building).

7. Samples are taken weekly from the interior of the adsorbers for process control. These data are used in determining when to change carbon within the adsorber. Carbon change out is done on a batch basis since the carbon adsorbers are of the pulsed bed type. An aliquot of clean carbon is placed in the top of the adsorber and an equal amount of exhausted carbon is removed from the bottom of the adsorber. The chemical quality of the plant's influent and effluent waters was monitored by taking water samples on a weekly basis and analyzing them. Influent samples were collected from each of the three individual carbon adsorber influent lines from sampling ports located between the pre-filters and the adsorbers. A composite effluent sample was collected from a sampling port upstream of the post-filters. Influent and effluent samples were collected on a weekly basis. Samples were collected also from ports located in the well pits.

8. All water samples were collected in previously cleaned, glass containers, sealed, and transported to the appropriate analytical laboratory at RMA or their contractor for analysis. The analytes for which the plant water samples were analyzed for during FY88 are presented in Table 1. All analyses were performed using standard methods. The sample analysis and flow data were entered into the analytical data base by laboratory personnel, subjected to a quality control routine, validated, and placed into the PMRMA data base by the RIC. Data sets were prepared for use in developing the tables and figures used in this report. Copies of

Table 1

Chemical Analysis of Treatment Plant Samples

Analyte	FY 88 Quarters 1st	2nd	3rd	4th
Organochlorine Pesticides				
Aldrin	X	X	X	X
Endrin	X	X	X	X
Dieldrin	X	X	X	X
Isodrin	X	X		
Hexachlorocyclopentadiene	X	X		
p,p'-DDE				X
p,p'-DDT	X	X		
Chlordane	X	X		
Volatile Organohalogens				
Chlorobenzene	X	X		
Chloroform	X	X	X	
Carbon Tetrachloride	X	X		
trans-1,2-Dichloroethylene				X
Trichloroethylene (TCE)	X	X	X	X
Tetrachloroethylene	X	X		
1,1 Dichloroethylene				X
1,1 Dichloroethane				X
1,2 Dichloroethane		X	X	
1,1,1 Trichloroethane				X
1,1,2 Trichloroethane				X
Methylene Chloride	X	X		
1,2 Dichloroethylene	X	X		
Organosulfur Compounds				
P-Chlorophenylmethylsulfone ($PCPMSO_2$)	X	X	X	X
P-Chlorophenylmethylsulfoxide (PCPMSO)	X	X	X	X
P-Chlorophenylmethylsulfide (PCPMS)	X	X	X	X
1,4-Dithiane	X	X	X	X
1,4-Oxathiane	X	X	X	X
Dimethyldisulfide (DMDS)				X
Benzothiazole	X	X		

(Continued)

Table 1 (Concluded)

Analyte	FY 88 Quarters 1st	2nd	3rd	4th
DCPD/MIBK				
Dicyclopentadiene/	X	X	X	X
Methylisobutylketone	X	X		
DIMP/DMMP				
Diisopropylmethylphosphonate/	X	X	X	X
Dimethylmethylphosphonate	X	X		
DBCP				
Dibromochloropropane	X	X	X	X
Inorganics				
Arsenic	X	X		
Chloride	X	X	X	X
Fluoride	X	X	X	X
Sulfate	X	X		
Volatile Aromatics				
Toluene	X	X		
Benzene	X	X		
Xylene (o-, m-, p-)	X	X		
Ethylbenzene	X	X		
GC/MS Analysis		X		

the plant flow and analytical data for FY88 are contained in Appendices A and B, respectively of this report.

PART III: SYSTEM OPERATIONS AND FACILITY ALTERATIONS

Operational Summary

9. A record of plant operations for the North Boundary System (NBS) is maintained by RMA plant operations personnel with major events documented on a daily basis. This daily record contains information on the operation, maintenance activities, and repairs of the treatment plant equipment and dewatering and recharge wells. It also details other events such as plant downtime, equipment failure, and, filter and carbon removal and replacement.

10. The performance of the NBS treatment plant has been maintained through continued improvements and upgrade of the system. Overall downtime for the NBS has been steadily reduced over the years. Other than routine downtime for normal maintenance, system repairs, and carbon changeout (loading and transferring) the NBS was never out of operation for no more than three consecutive days during FY88. Downtime due to mechanical and electrical malfunctions was approximately eight days. Adsorber C was out of operation for three days in the 2nd quarter of FY88 due to a broken influent pipe flange. The remaining five days of downtime occurred in the 4th quarter of FY88. Plugged filters, a lightening strike and loss of power to the dewatering wells accounted for one and one-half days of shut down. Almost three days were used to drain Adsorber B and to replace a septa screen. The plant was also shut down for almost half a day to install a septa screen on Adsorber C. The recharge wells were cleaned periodically to improve the systems ability to reinject treated water north of the containment barrier.

Facility Alterations

11. No major alterations were made to the NBS in FY88. Extensive work was done on investigating and designing a system of ten recharge trenches as part of an interim response actions (IRA) for the NBS. Final specifications and drawings were prepared by Morrison-Knudsen Environmental Services (MKE) during FY88.

The proposed trenches are shown in Figure 1. The trenches were scheduled to be constructed in early FY89.

System Flow Quantities

12. The volume of water treated by the NBS is recorded on a daily basis. The flow quantities recorded for FY88 are presented in tables in Appendix A of this report. Graphs of weekly flow rates for each adsorber and the effluent stream have been prepared and are presented in Figures 2 through 5. The treatment plant flow data were gathered on a weekly (7 day) basis beginning with the first day of the FY through the end of the FY.

13. During FY88, total flow (effluent) rates ranged from a low of 198 gpm to a high of approximately 284 gpm. Average flow rates and total gallons of water treated during FY88 are presented in Table 2. The total volume treated in FY88 was approximately 6.9 million gallons less than that treated in FY87. The average flow rate in FY88 was approximately 13.5 gpm lower than that for FY87.

Table 2
FY 87 System Flow Quantities

Adsorber	Average Flow Rate (gpm)	Total Volume Treated (gal)
A	52.84	27,822,300
B	79.18	41,707,600
C	103.81	54,653,300
Total Effluent	235.83	124,183,300

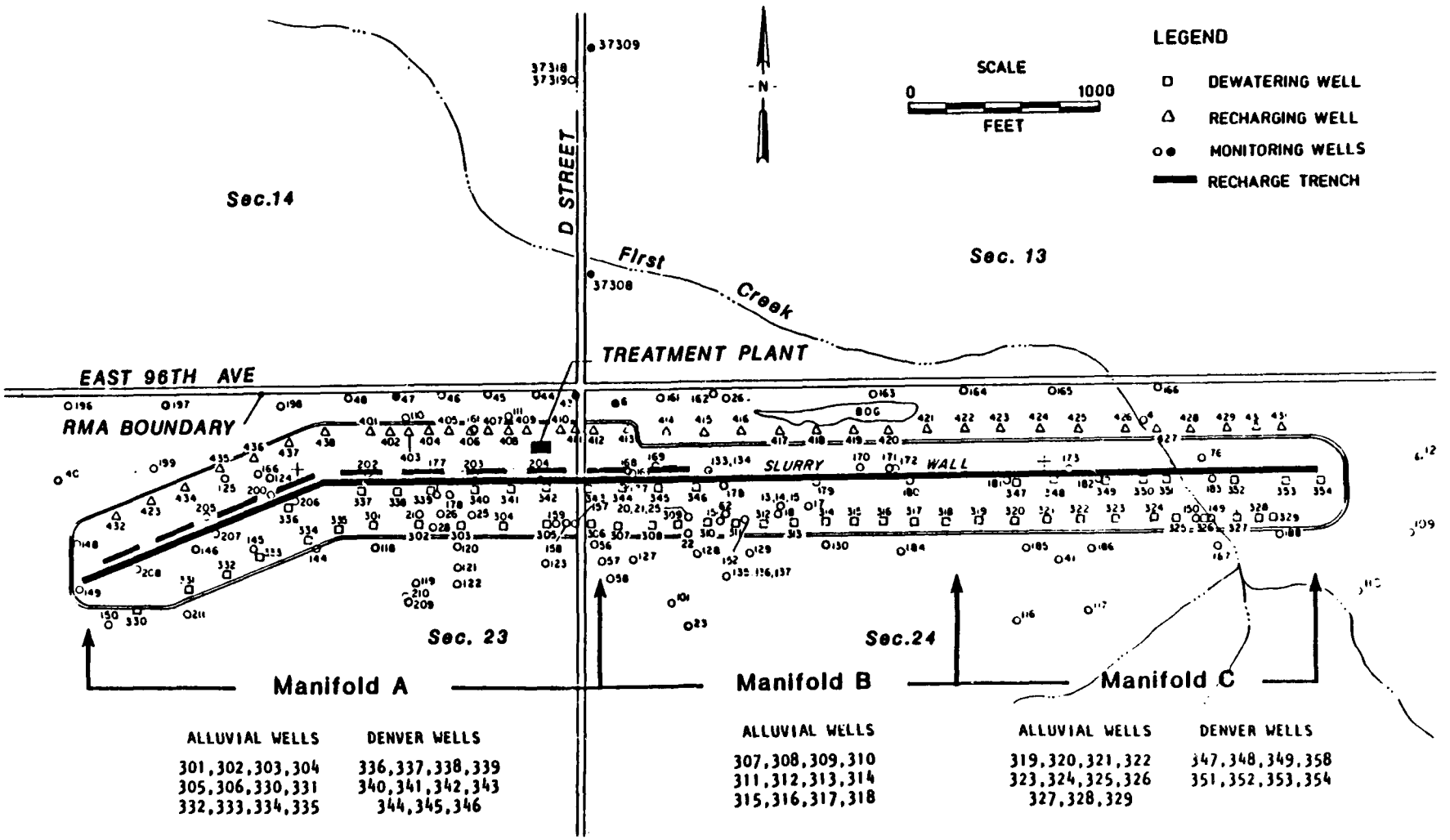


Figure 1. Slurry Wall barrier and recharge trench system at North Boundary.

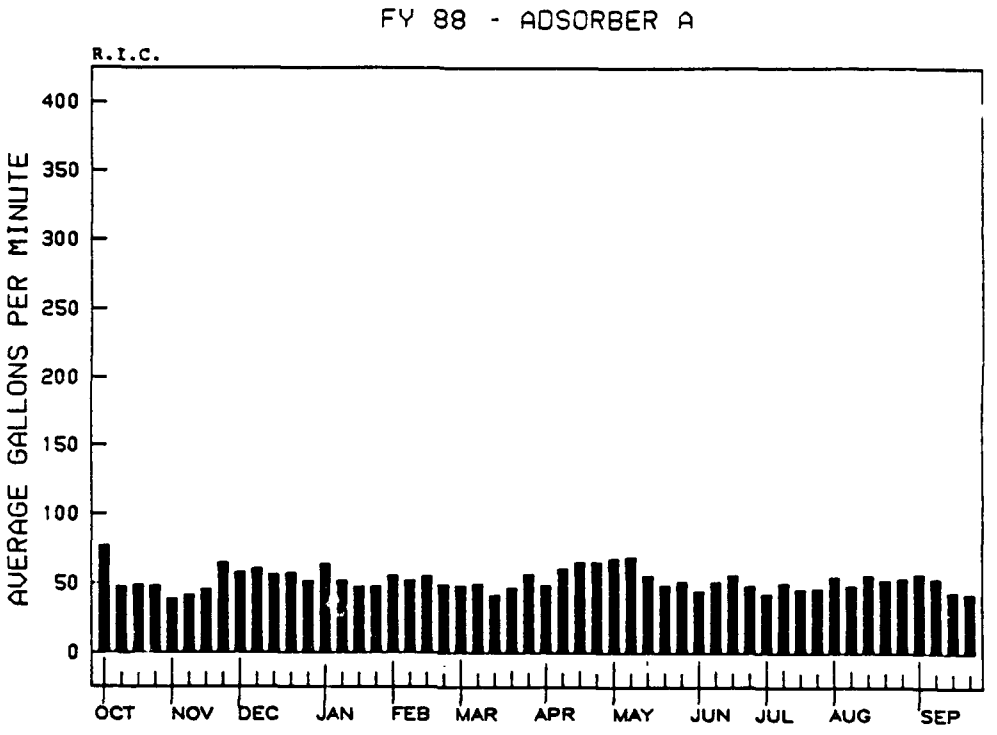


Figure 2. Adsorber A flow rate during FY88.

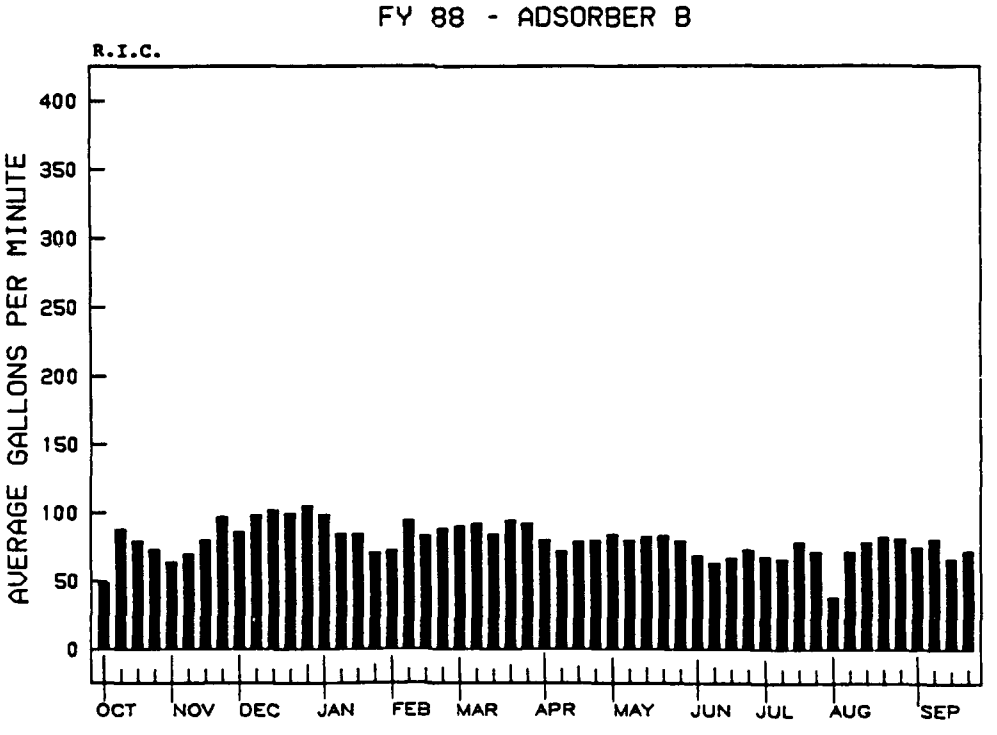


Figure 3. Adsorber B flow rate during FY88.

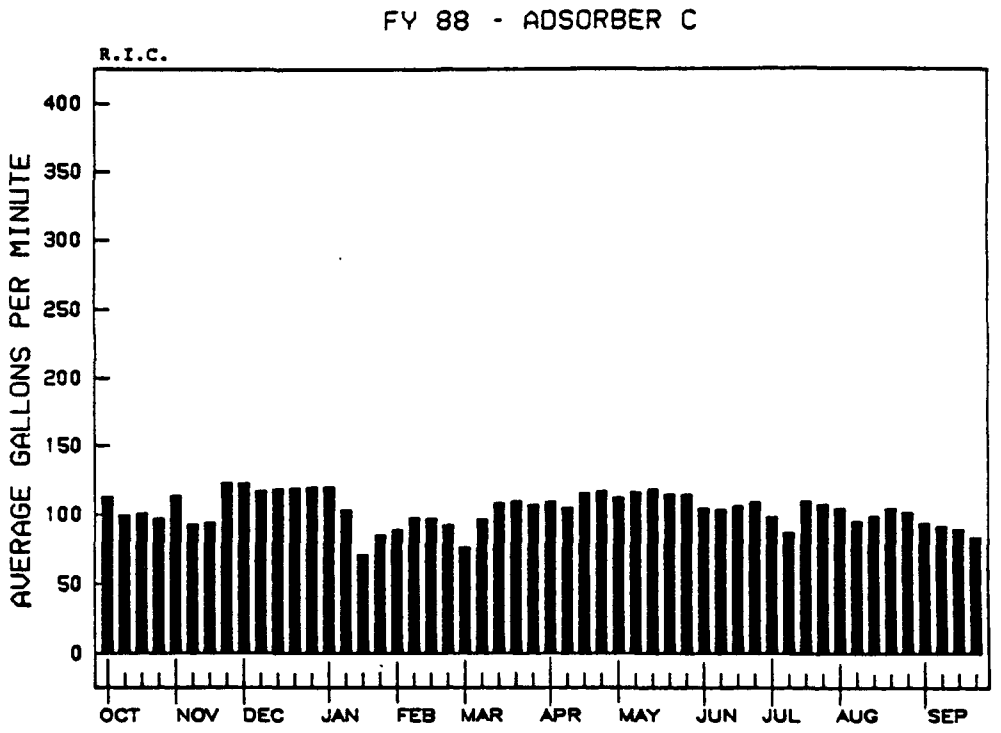


Figure 4. Adsorber C flow rate during FY88.

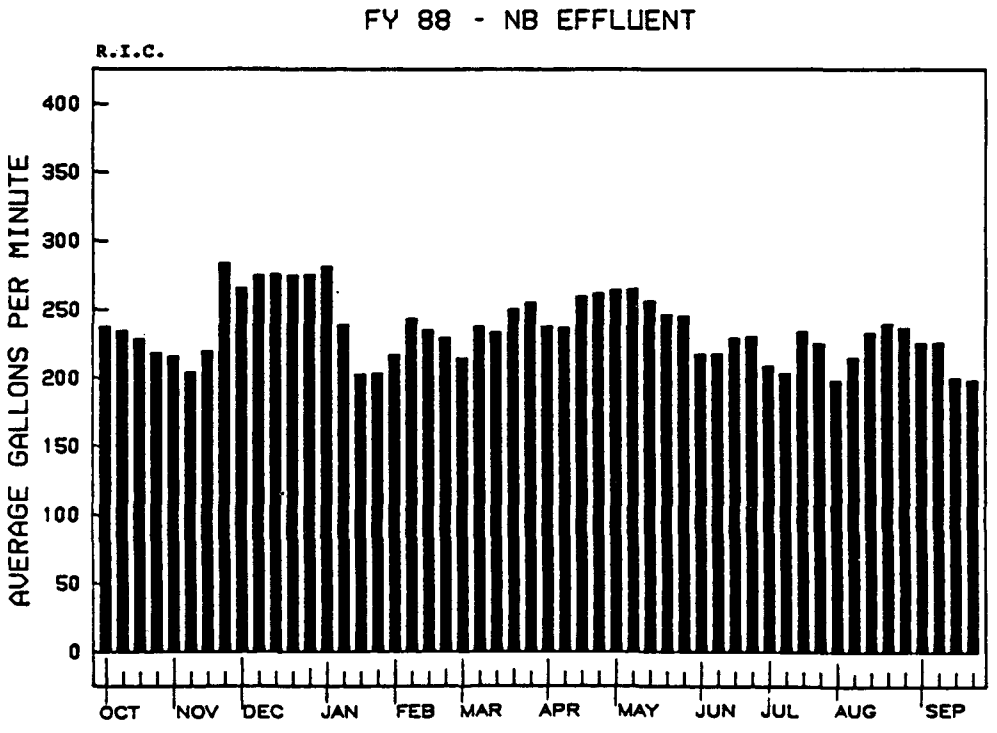


Figure 5. Effluent flow rate during FY88.

System Influent and Effluent Water Quality

14. The quality of the influent water and effluent water from the treatment system is monitored periodically by taking grab samples and analyzing them. Influent water samples are collected from each of the three individual adsorber treatment units in order to determine the quality of water flowing to each adsorber. A combined effluent sample is collected to determine overall effluent quality.

15. The influent and effluent water samples were analyzed for the analytes listed in Table 1 of this report. A statistical summary of the chemical analyses for the period October 1987 through September 1988 are presented in tabular form in Appendix B of this report. As indicated in the statistical summary in Appendix B, a variety of analytes had different CRL's during the year. This situation developed due to the use of a variety of labs during the year. Analyses were conducted by ESR until February, RMA Laboratory Group until April, and Data chem thereafter. Each lab had its own CRL for the method used.

16. Graphs of the concentrations found for endrin, dieldrin, isodrin, hexachlorocyclopentadiene, p,p'-DDT, chloroform, carbon tetrachloride, trichloroethylene, tetrachloroethylene, 1,2 dichloroethylene, combined organo-sulfurs, dithiane, DCPD, DIMP, DBCP, arsenic, chloride, fluoride, sulfate, toluene, and ethylbenzene over this period have been prepared and are presented in Figures 6 through 26. No concentrations of the other contaminants listed in Table 1 in excess of their respective certified reporting limit (CRL) were found in the samples collected during FY87. Therefore, no graphs were prepared for these less than CRL contaminants.

17. A separate graph has been prepared for each contaminant for each adsorber influent and plant effluent for FY88. Each graph (except where noted) presents a plot of the contaminant concentrations found and three lines indicating the CRL, the maximum operating limit (MOL) permitted, and the average concentration over the FY where sufficient data were available to calculate an average. The MOL used in this report is defined as the water quality criterion against which the operating performance of the treatment plant is compared in order to assess treatment effectiveness for the various contaminants of concern. A

list of the MOL's used during the FY88 operational assessment is presented in Table 3. An average concentration was only computed for sets of data where 70 percent or more of the readings were above the CRL. When the criterion was met, values falling below the CRL were made equal to the CRL and included in the computations.

18. As discussed by Thompson et al. (1985), each of the three sumps (wet-wells) at the treatment plant (one for each manifold) were to feed an individual adsorber under the original operating scenario. Under this mode of operation, the influent to a particular adsorber would generally contain a higher concentration of a particular contaminant than would the others, since the contaminants are not evenly distributed along the length of the barrier. Operational changes and occasional mechanical problems have resulted in a requirement to periodically distribute water from individual sumps to more than one adsorber. This action has resulted in fluctuations in the concentrations of the various contaminants in the influent to each adsorber. Thus, conclusions concerning the increase or decrease in concentrations of contaminants in ground water along the three sections of the barrier should not be drawn based on the influent concentration data presented herein.

19. A GC/MS analysis was conducted on a set of samples collected in January 1988. The results of the analysis are presented in Appendix B. Only Chloroform, tetrachloroethylene, and trichloroethylene were found above their respective detection levels in the influent samples to some of the adsorbers. These three contaminants are being monitored on a continuing basis. Endrin

20. The CRL for endrin (Figure 6) in FY88 was 0.2 ppb until the beginning of the 3rd quarter when it was lowered to 0.05 ppb. The MOL for the NBS treatment plant was 0.2 ppb. Concentrations of endrin ranging from less than the CRL to approximately 6.01 ppb and 8.2 ppb were found in the influents to adsorber A and adsorber B, respectively, during FY88. The 8.2 ppb value appears to be anomalous value and, therefore, was not included on the graph and in the adsorber B averages. The average concentration for adsorber A was 1.51 ppb while the average found in the influent to adsorber B was 0.75 ppb. The highest con-centration of endrin above the influent to adsorber C was 0.41 ppb. No concentration of endrin above the CRL was found in the effluent during the year.

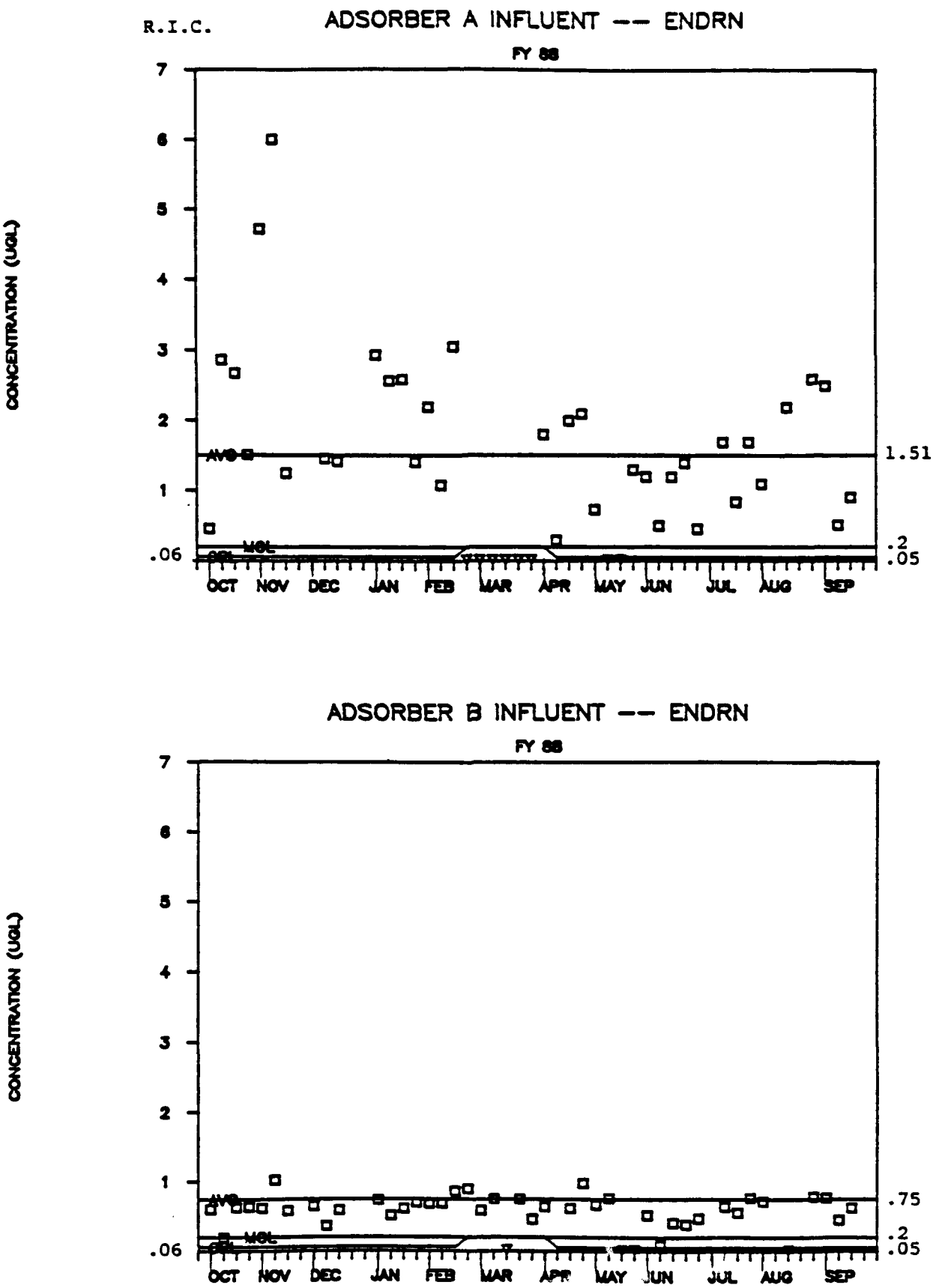
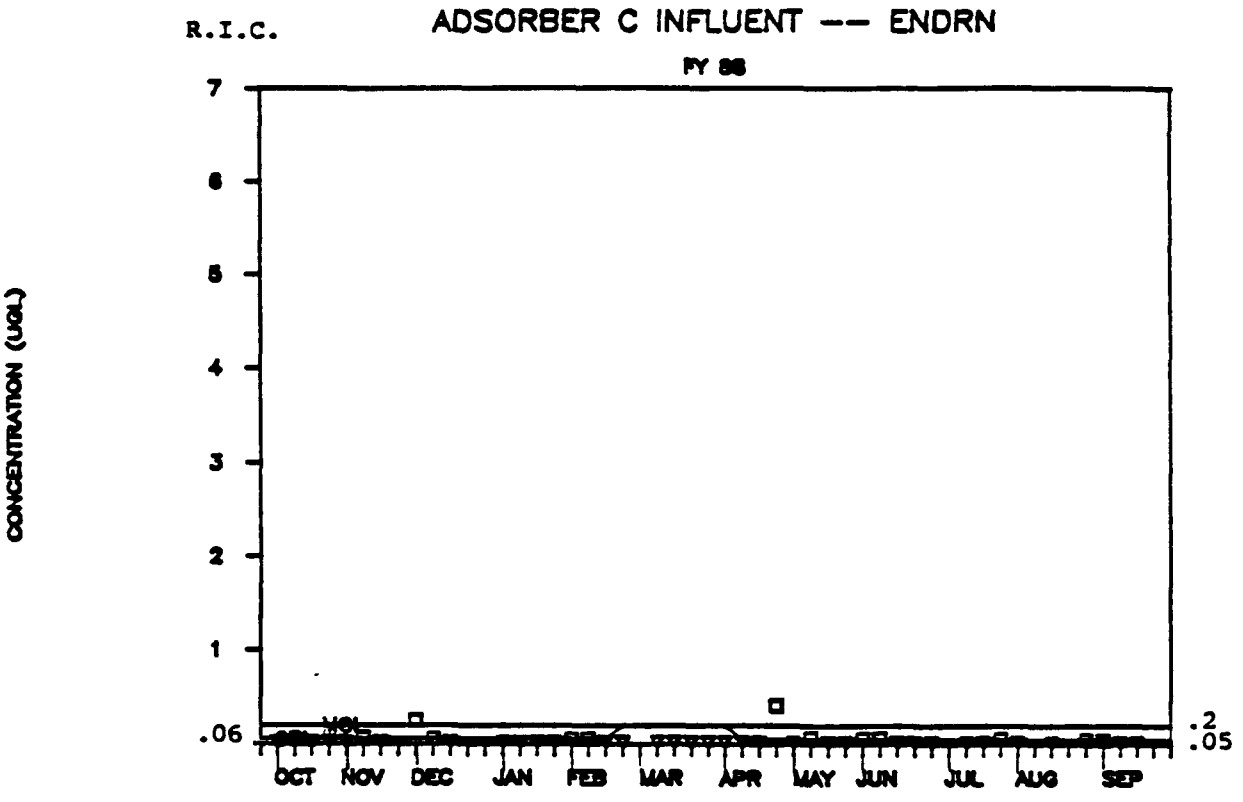


Figure 6. FY88 Endrin (continued).



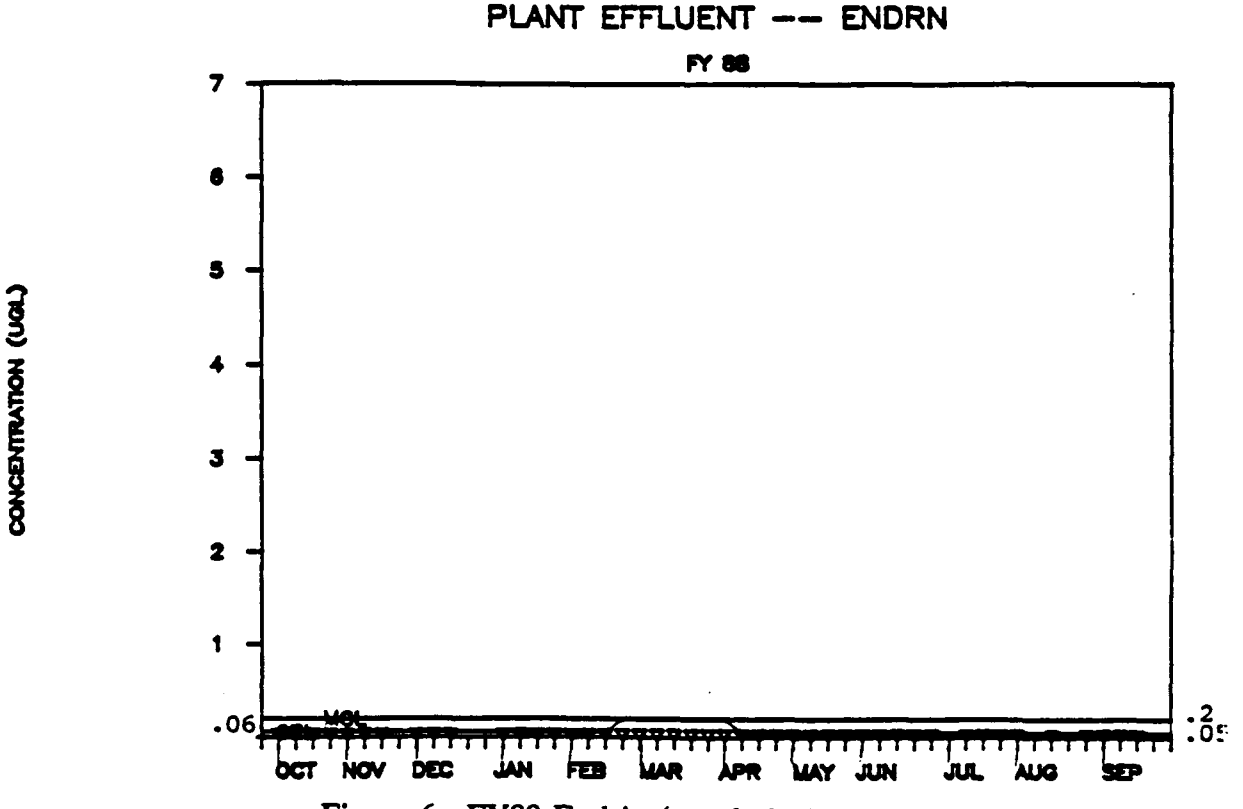
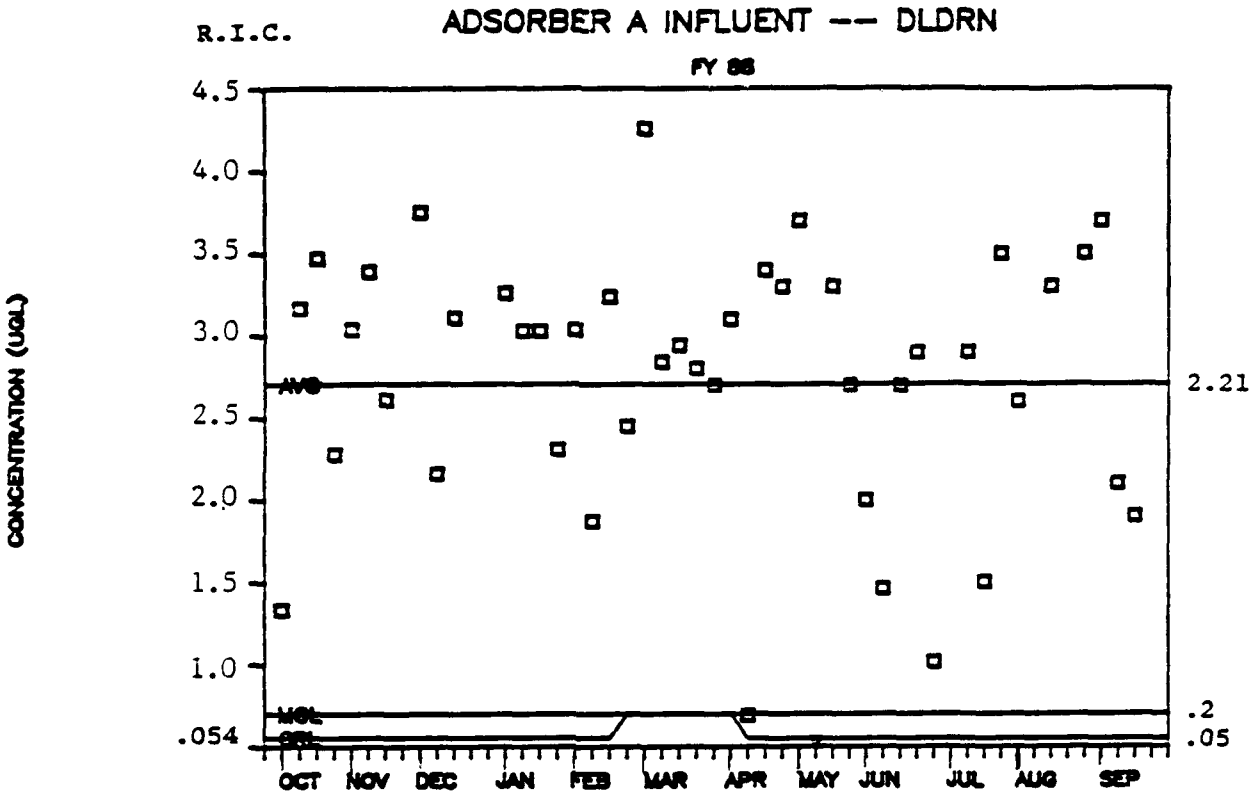


Figure 6. FY88 Endrin (concluded).



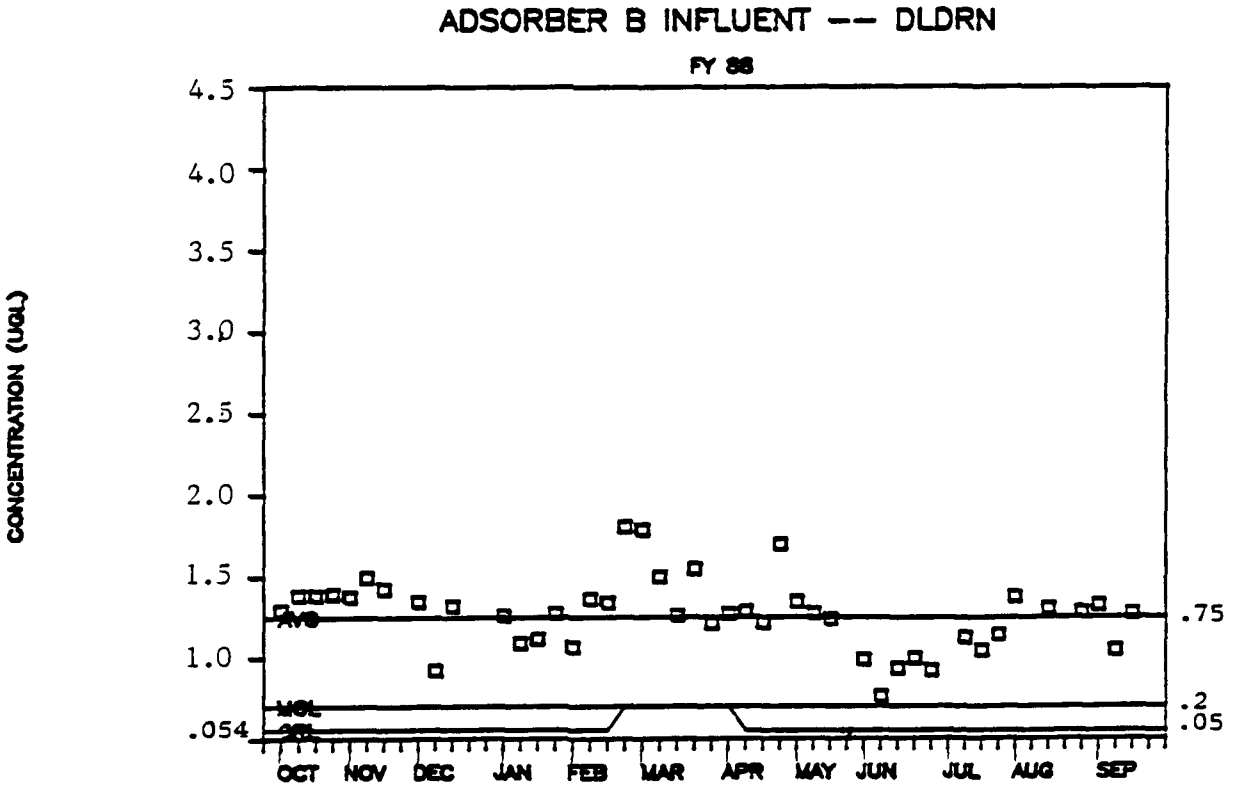
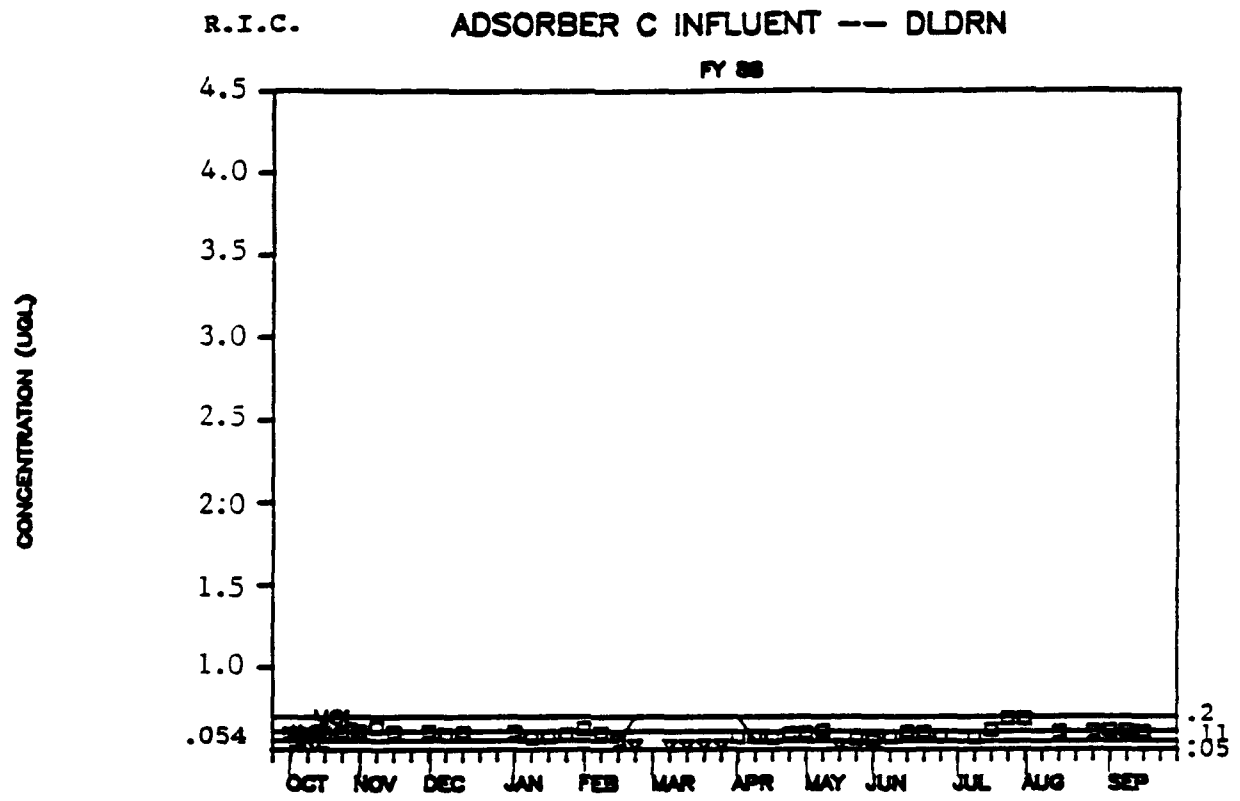


Figure 7. FY88 Dieldrin (continued).



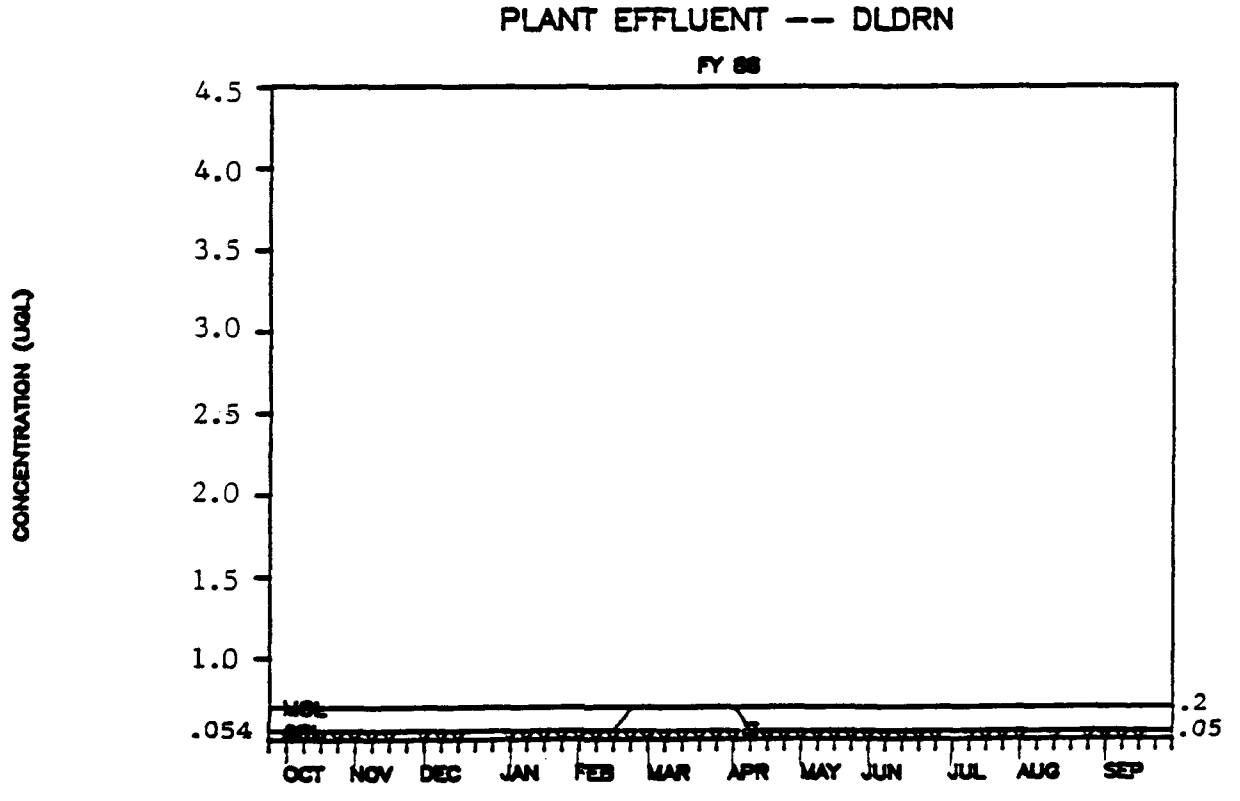
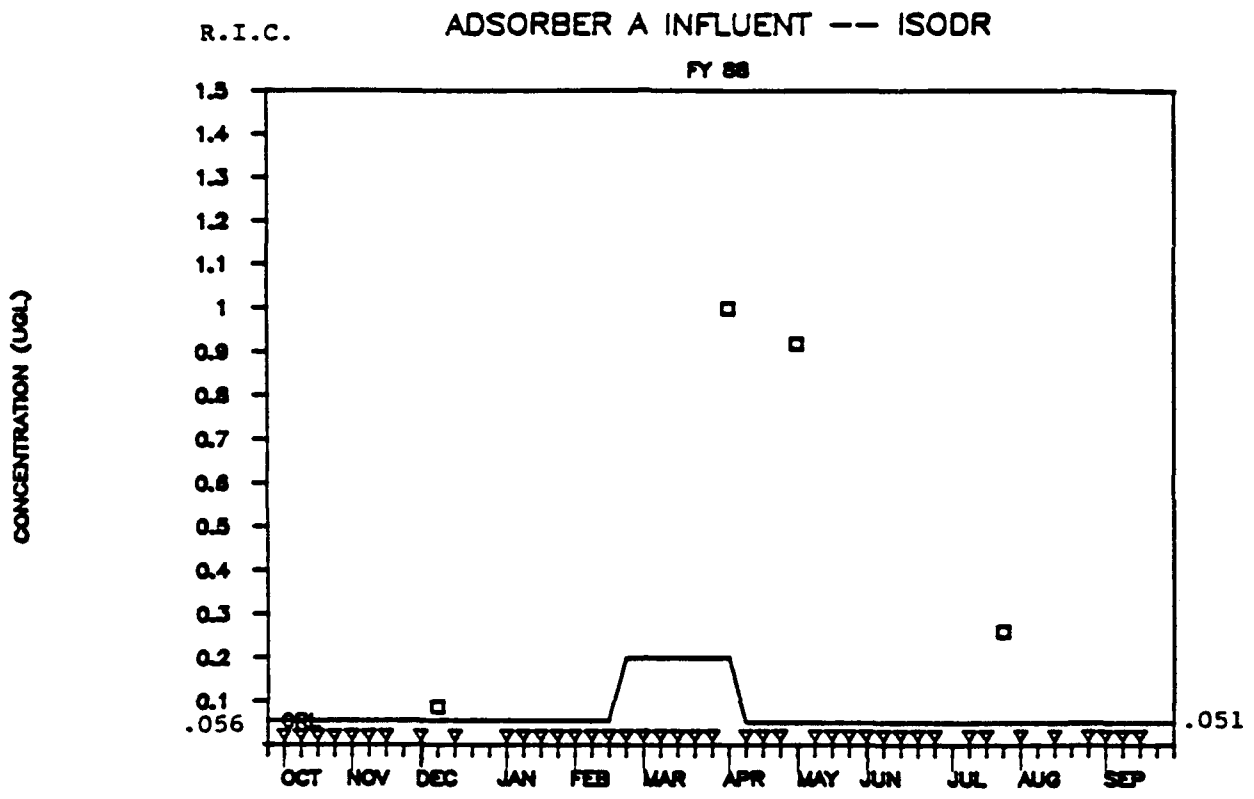


Figure 7. FY88 Dieldrin (continued).



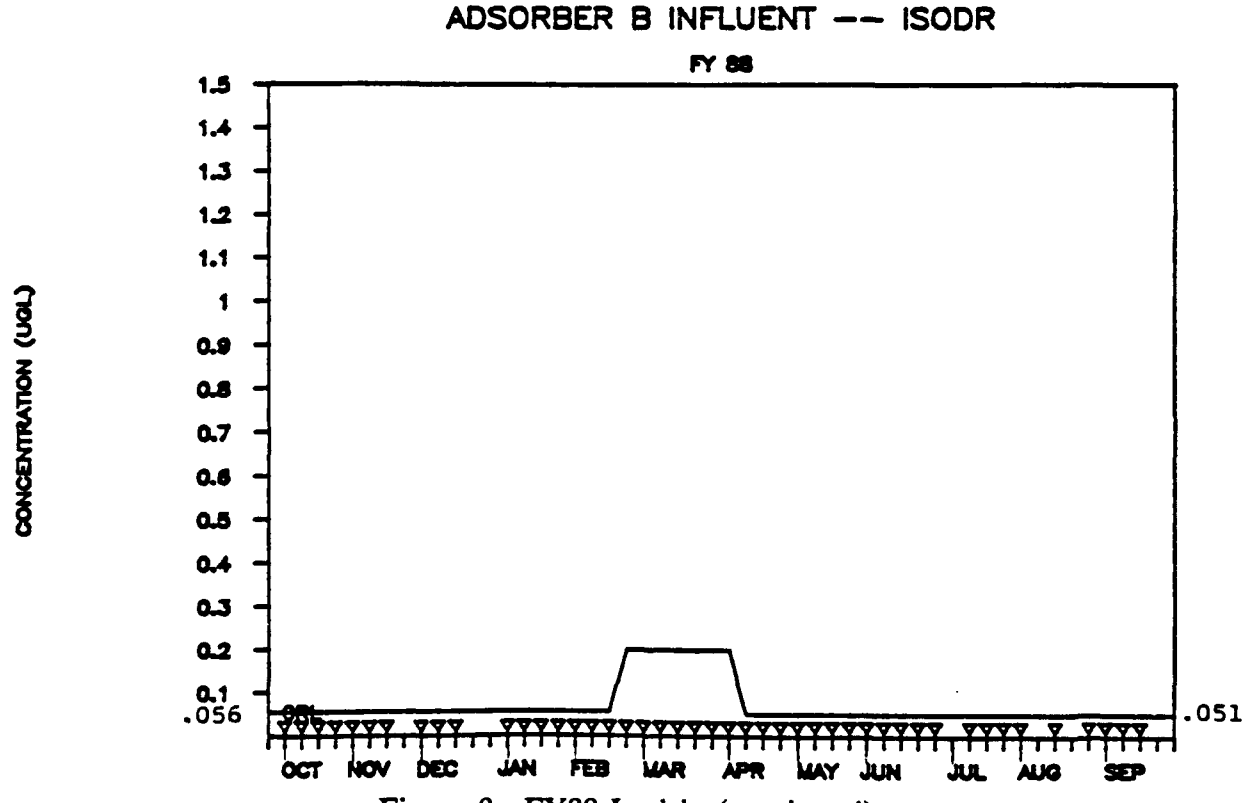
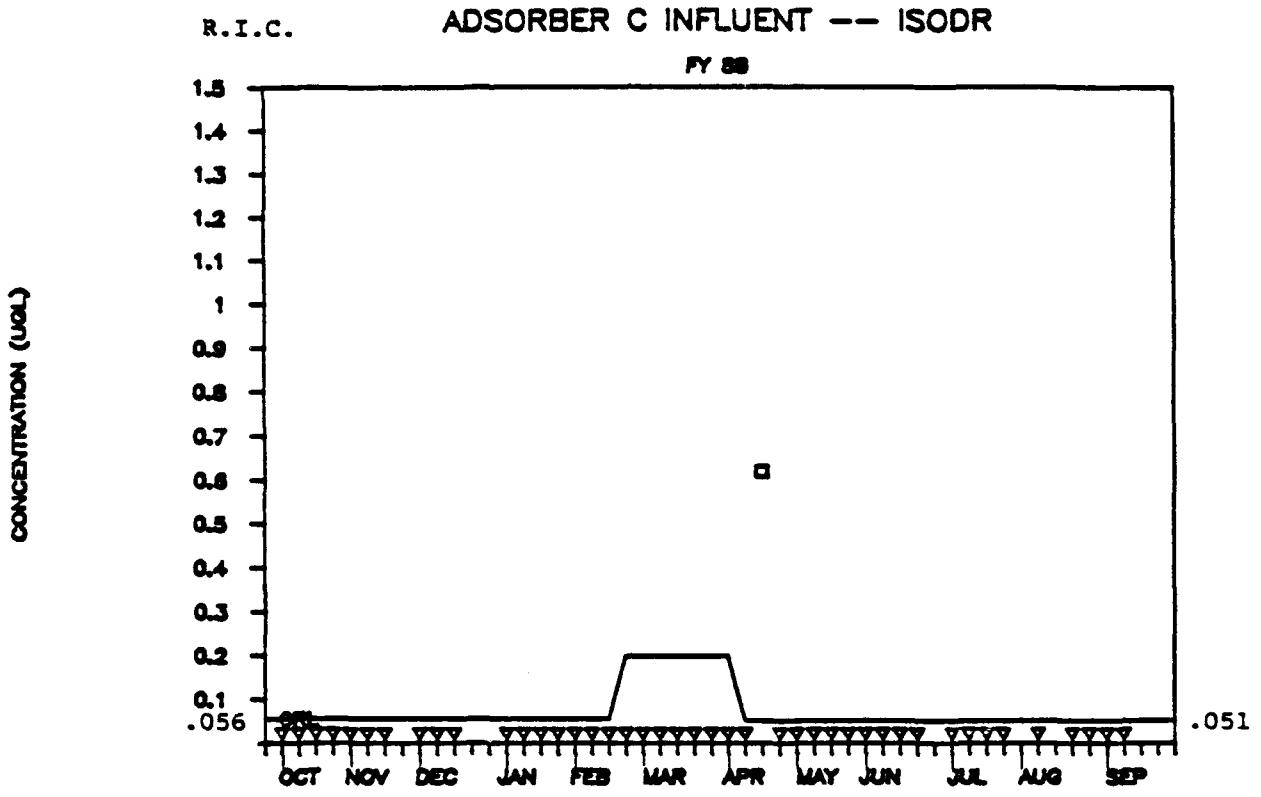


Figure 8. FY88 Isodrin (continued).



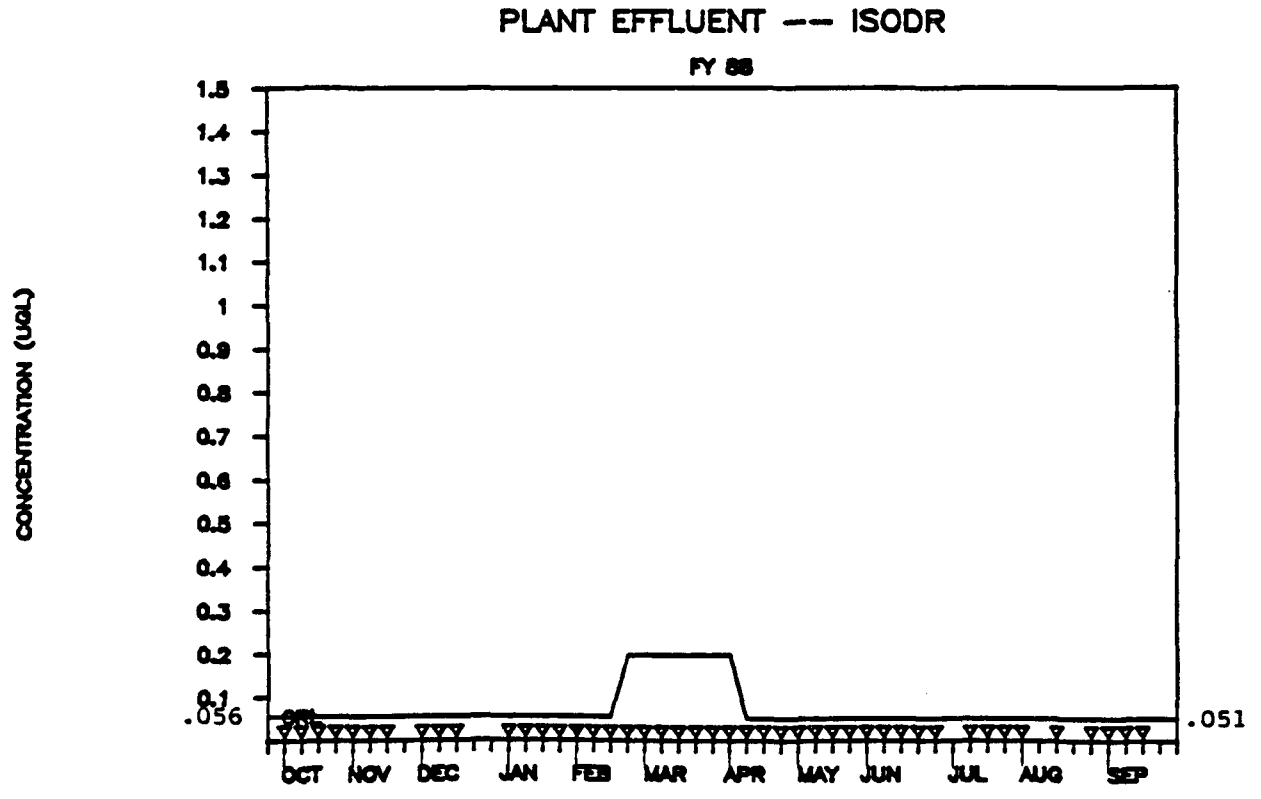
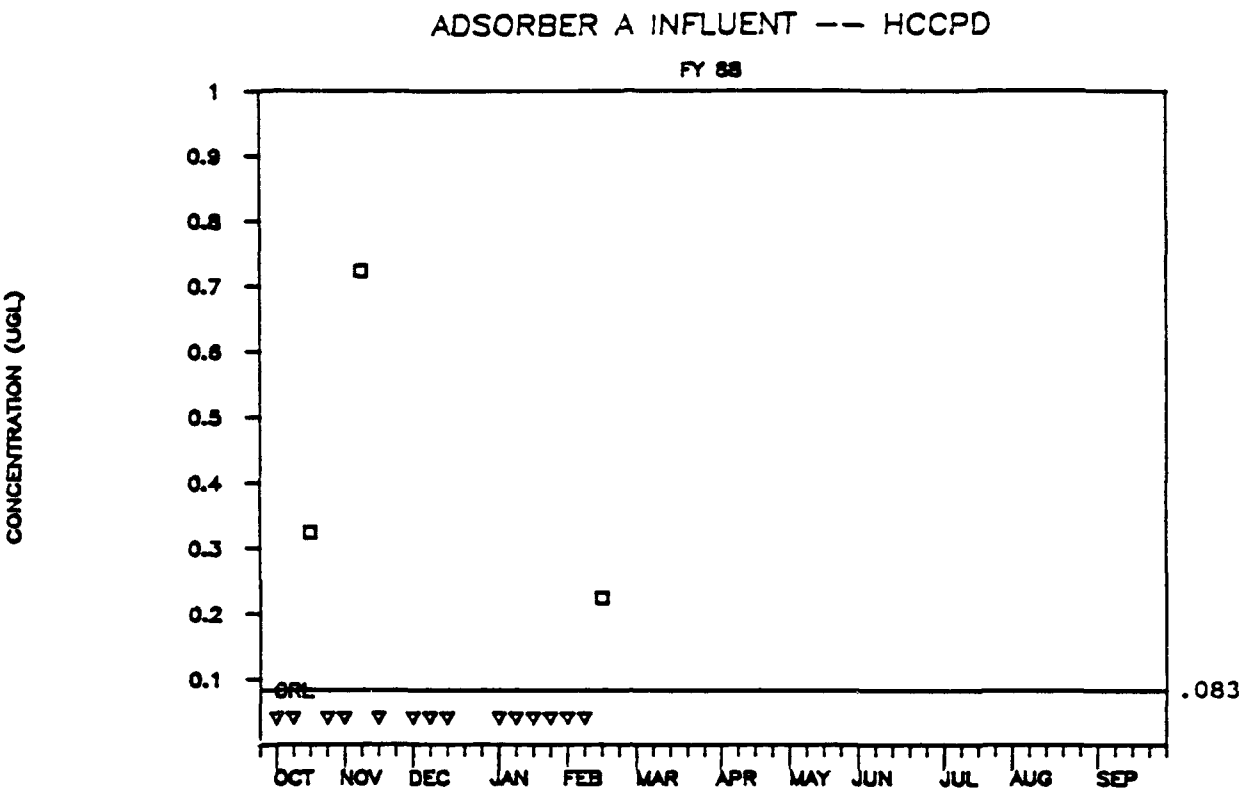


Figure 8. (FY88 Isodrin (concluded).



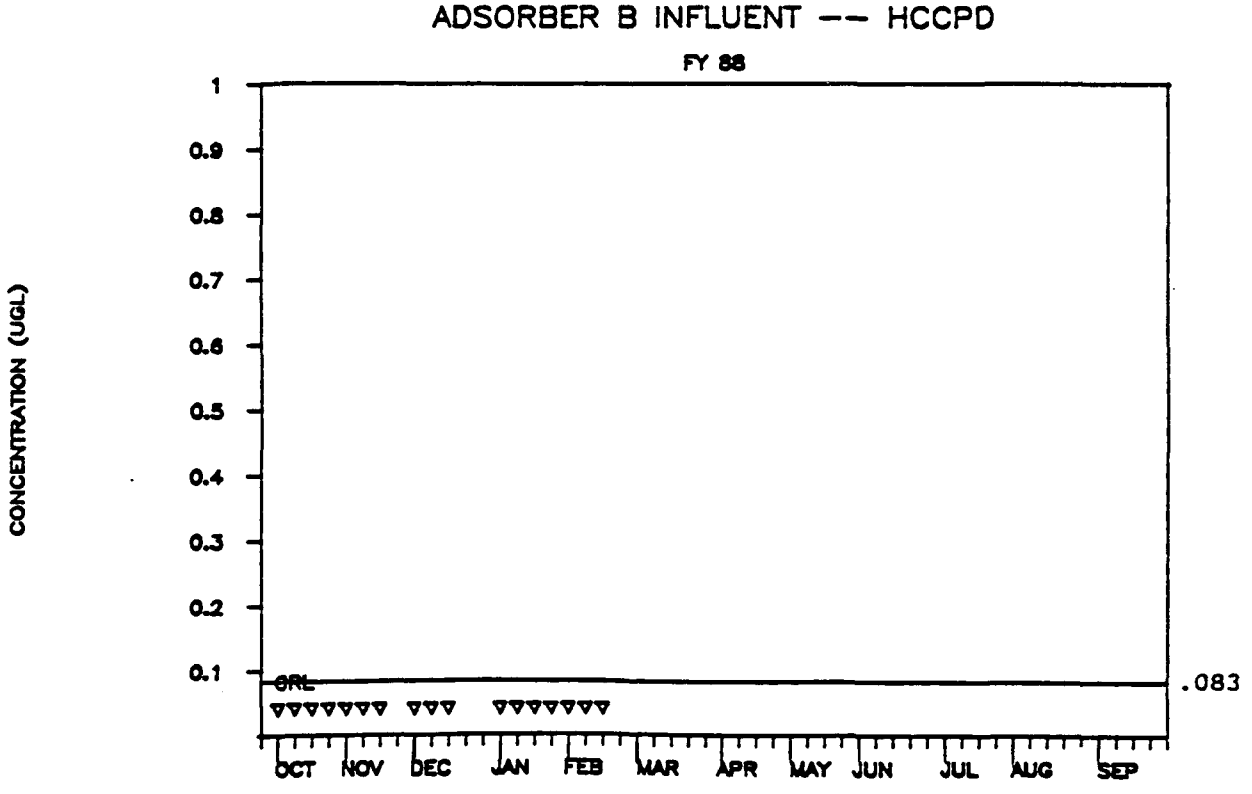
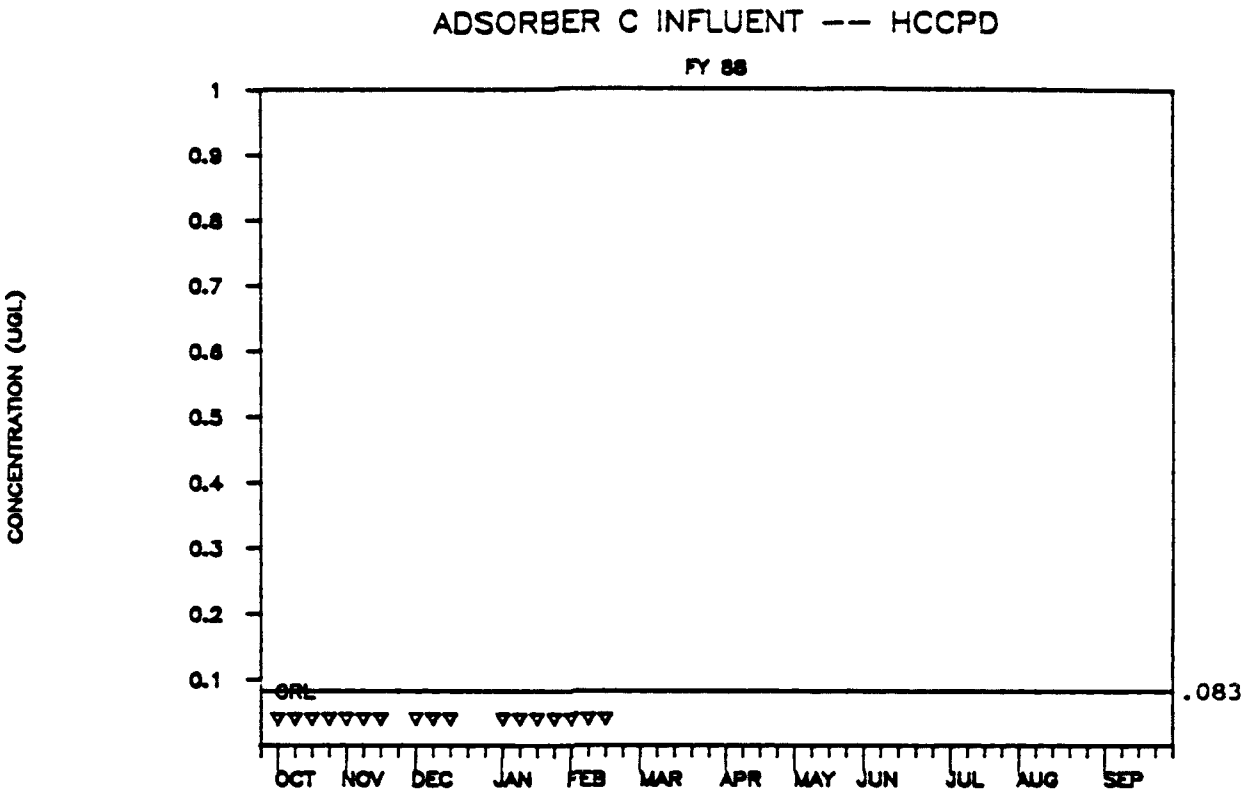


Figure 9. FY88 Hexachlorocyclopentadiene (continued).



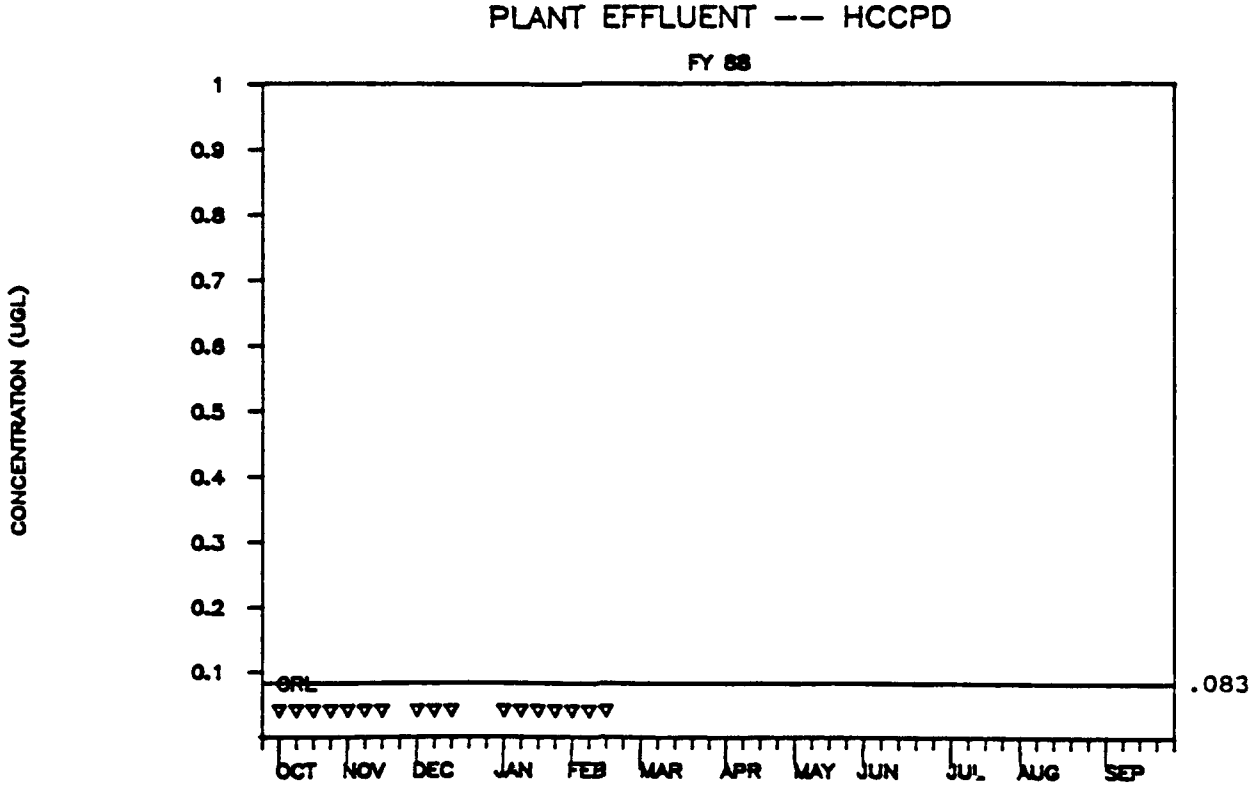
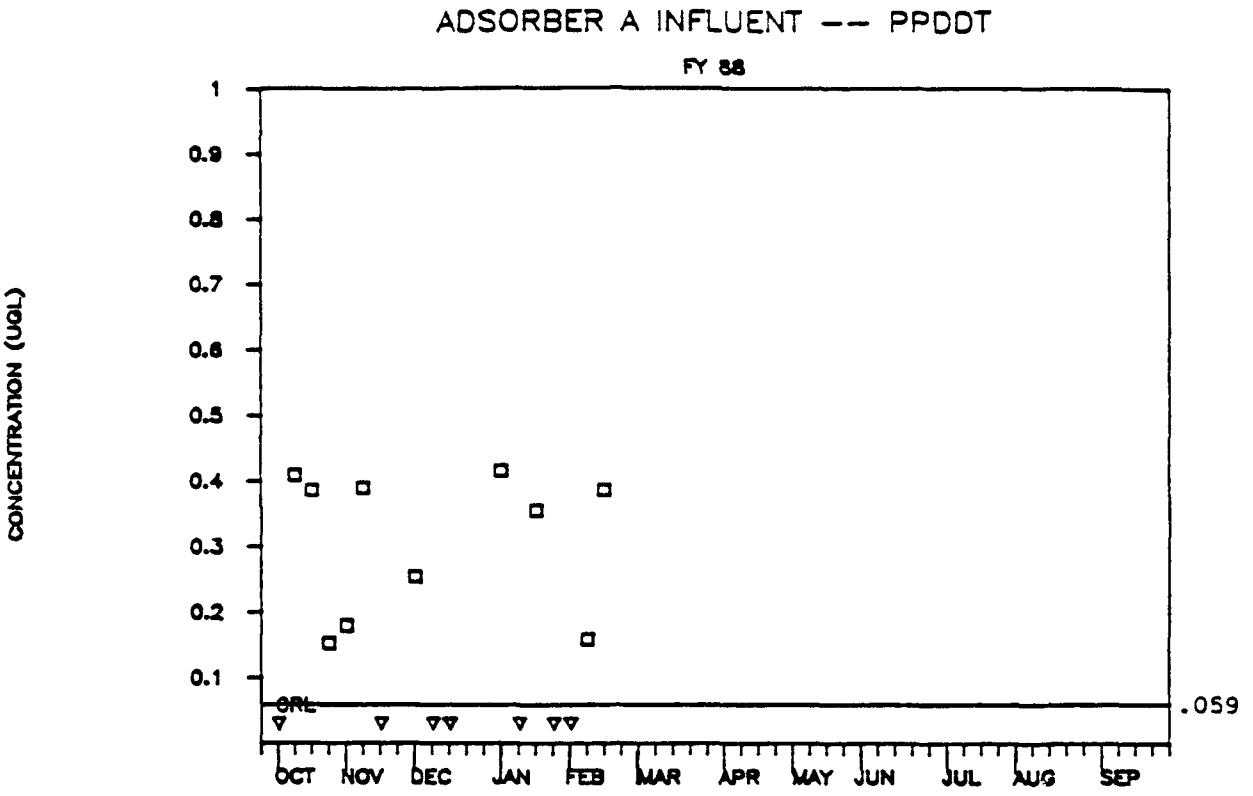


Figure 9. FY88 Hexachlorocyclopentadiene (concluded).



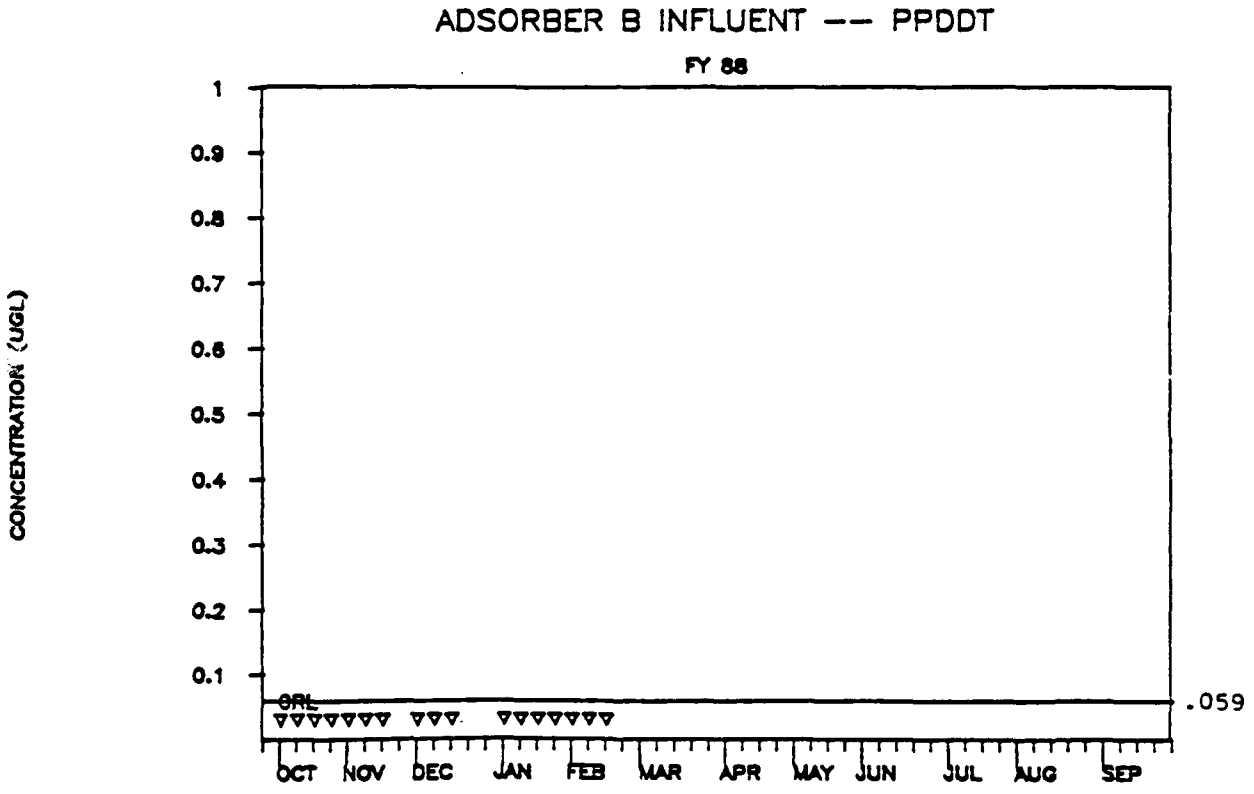
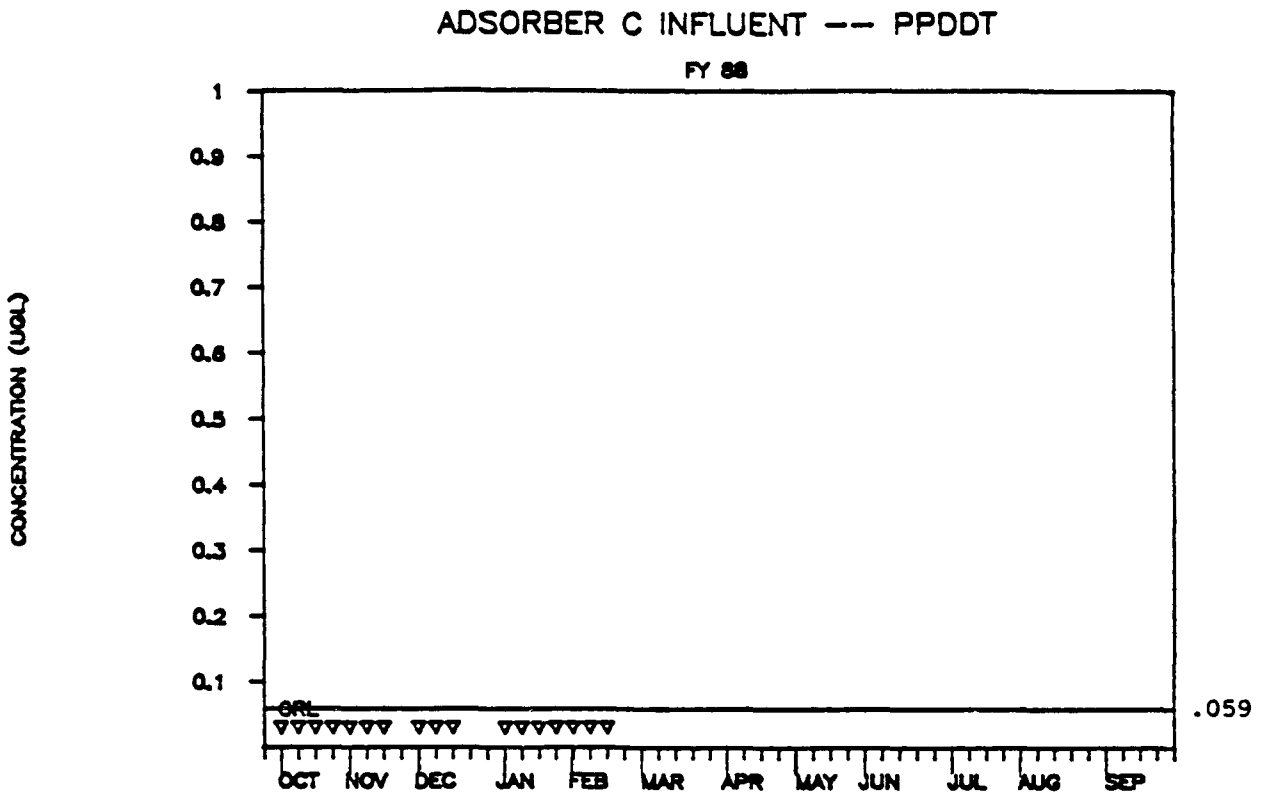


Figure 10. FY88 p,p'-DDT (continued).



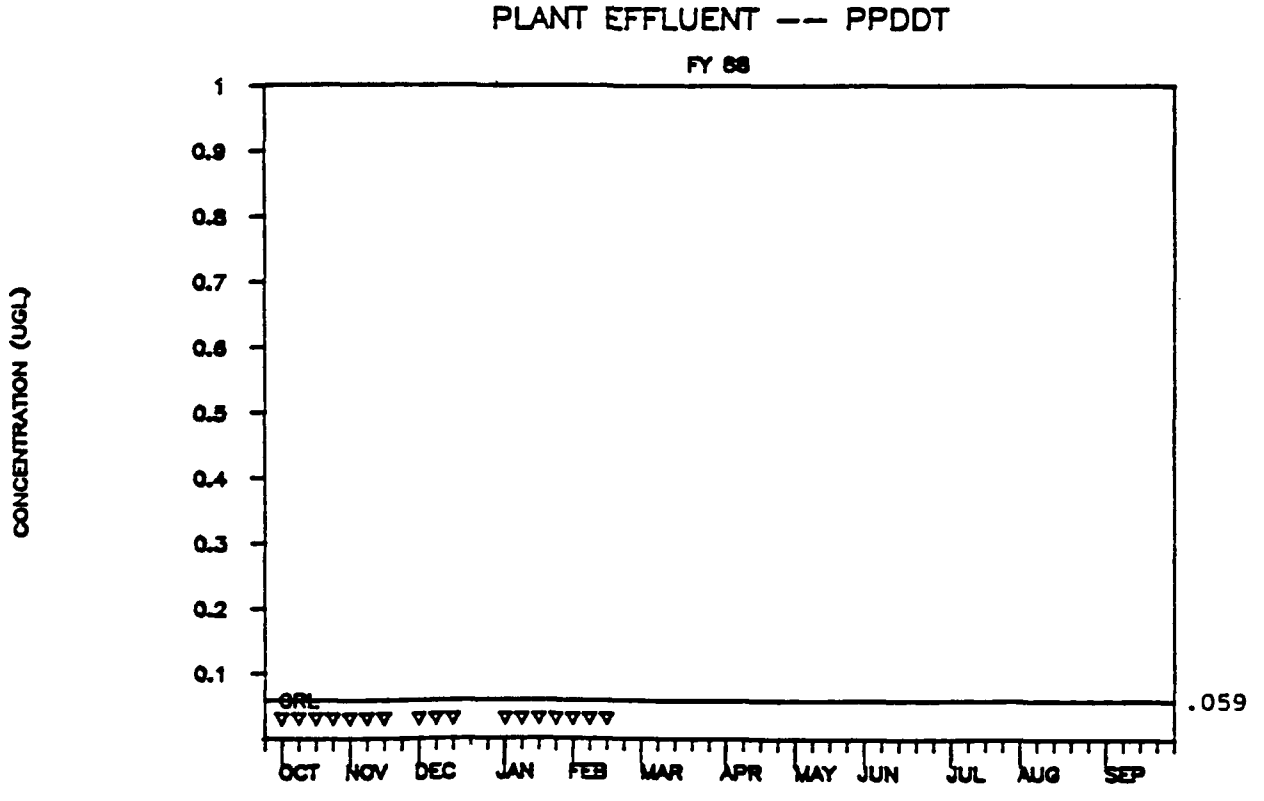
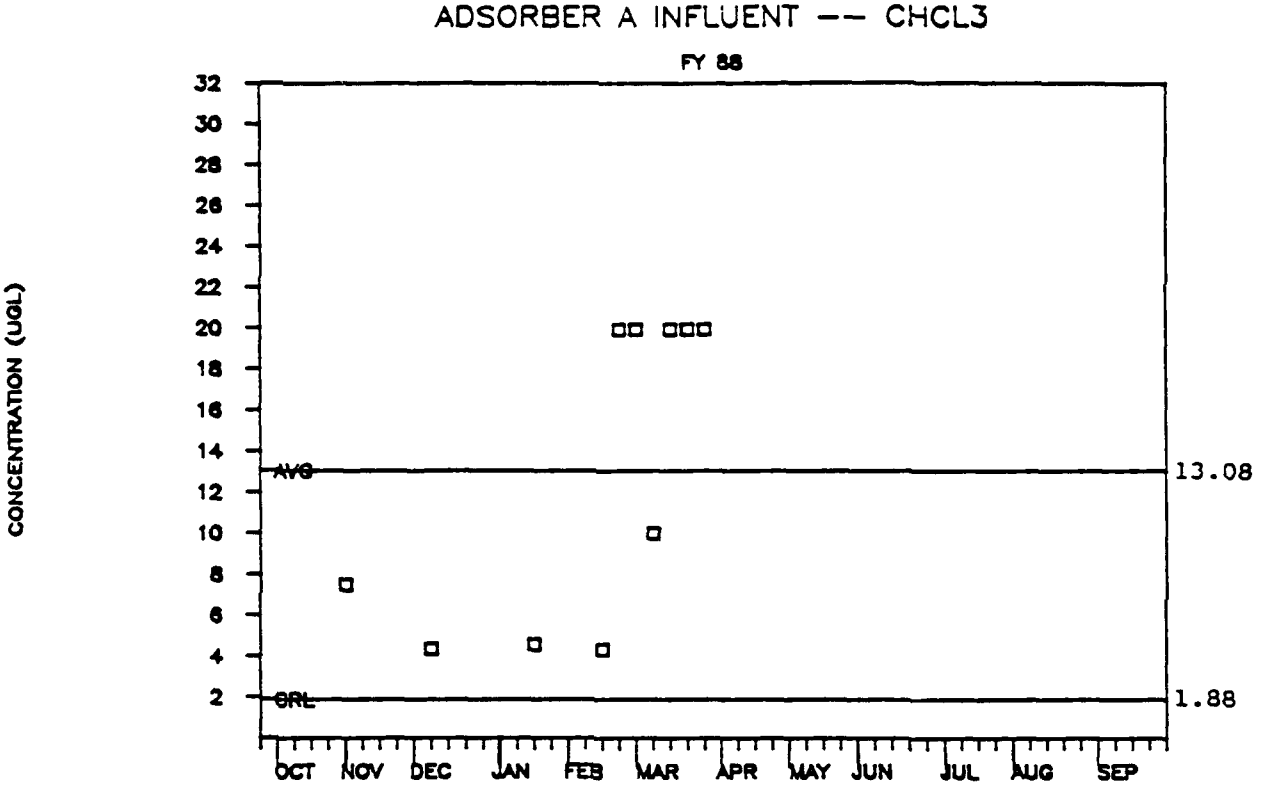


Figure 10. FY88 p,p'-DDT (concluded).



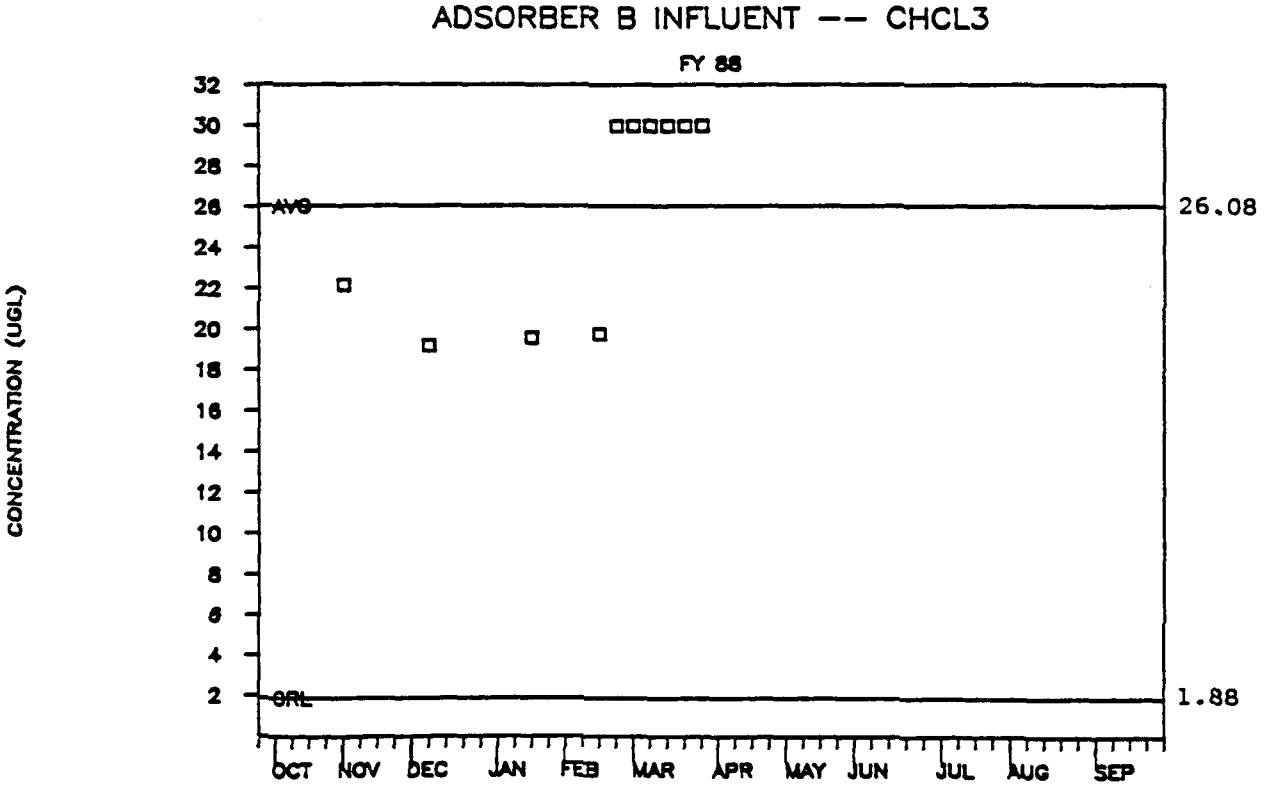
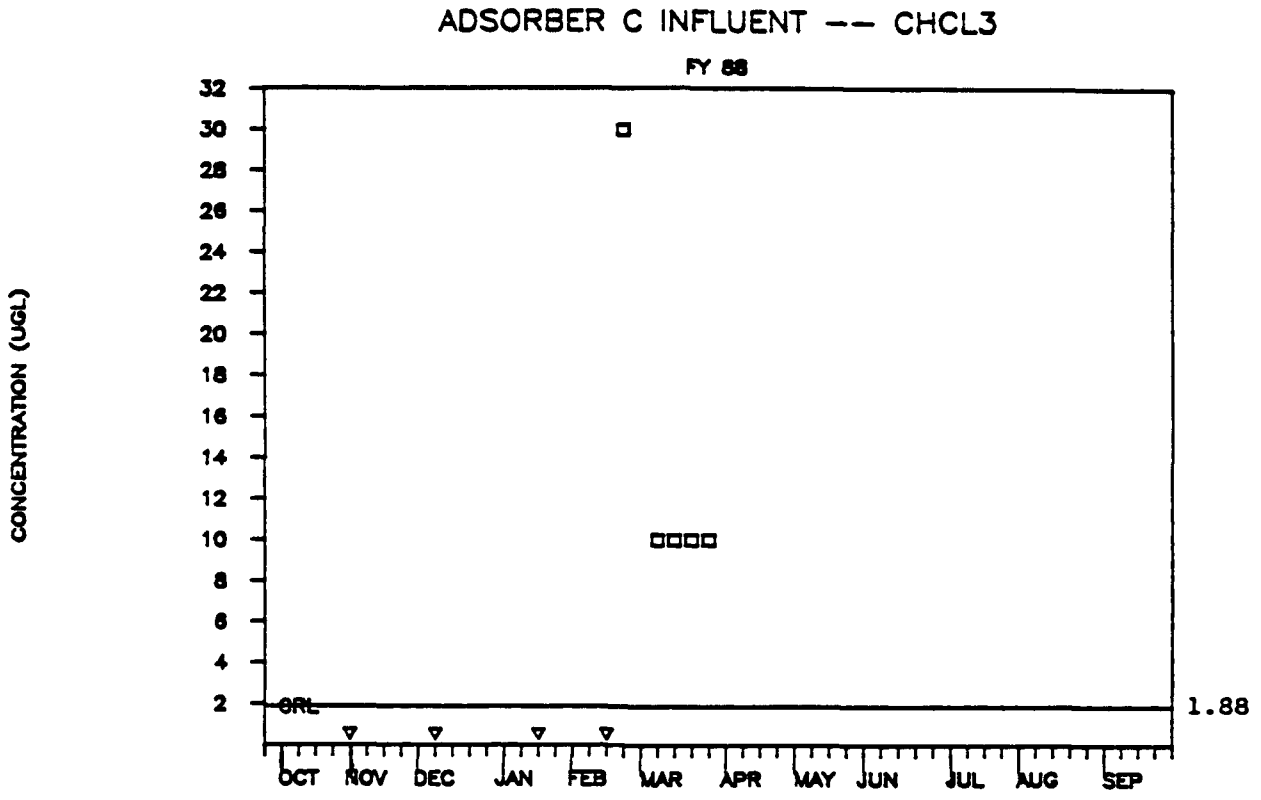


Figure 11. FY88 Chloroform (continued).



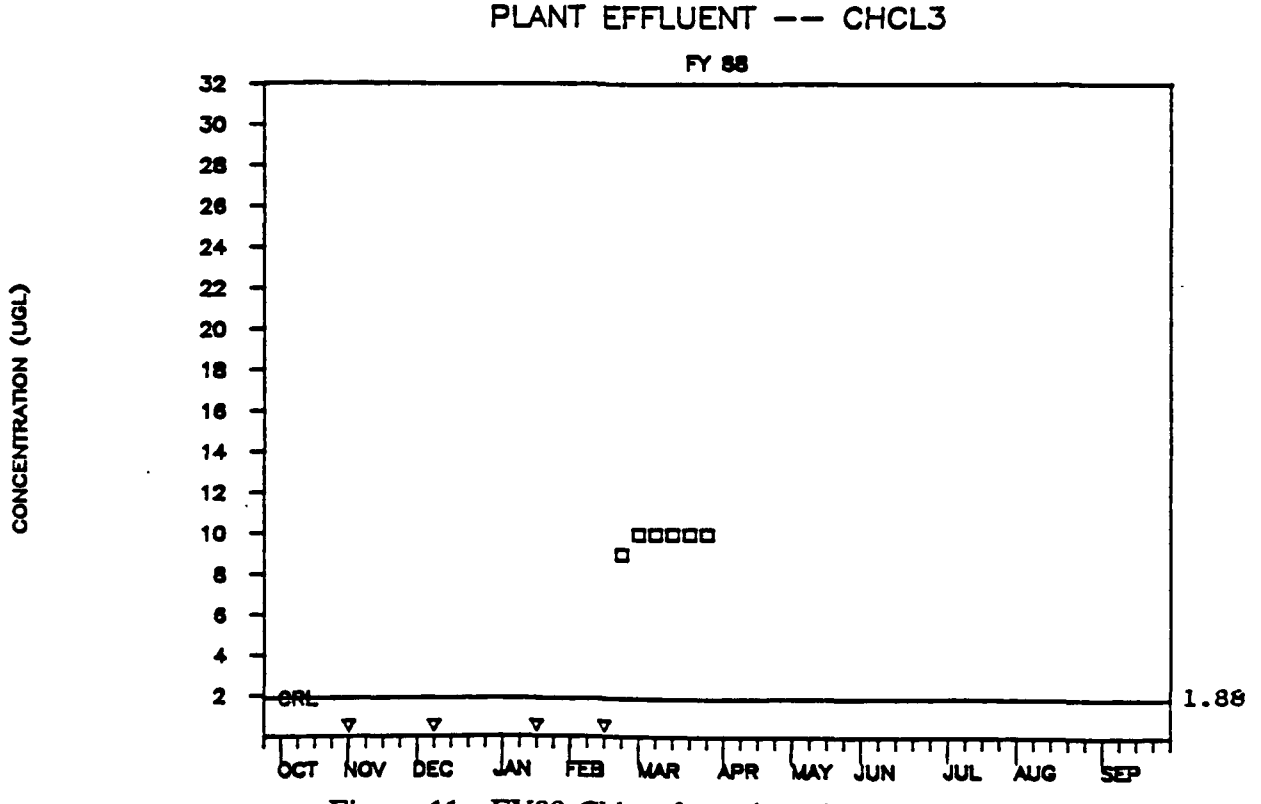
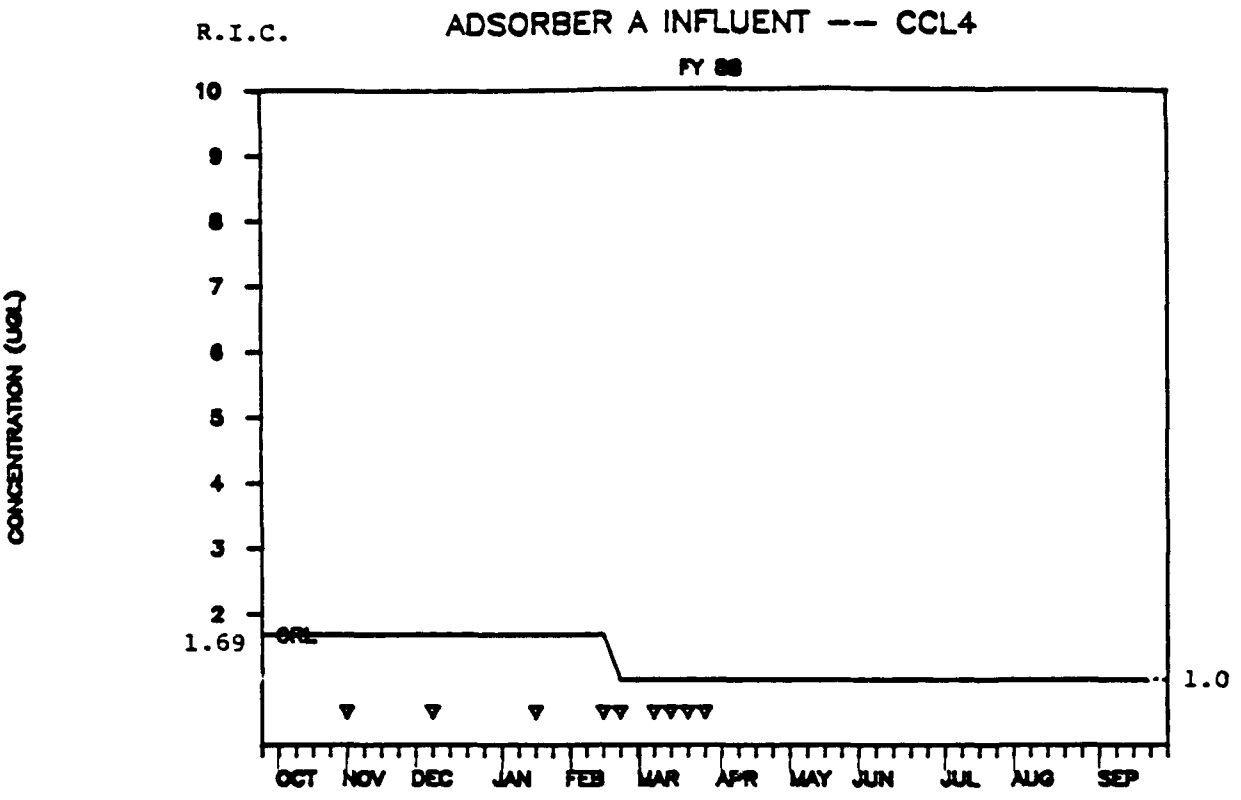


Figure 11. FY88 Chloroform (concluded).



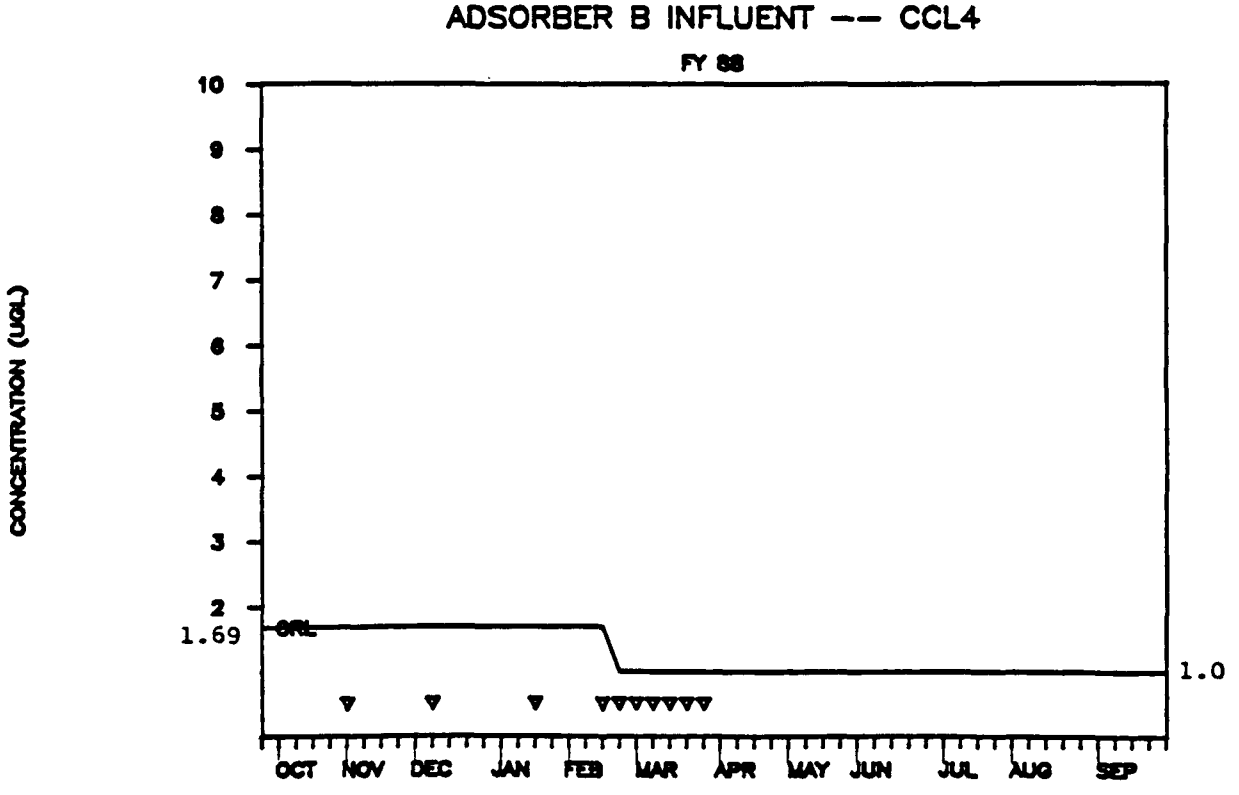
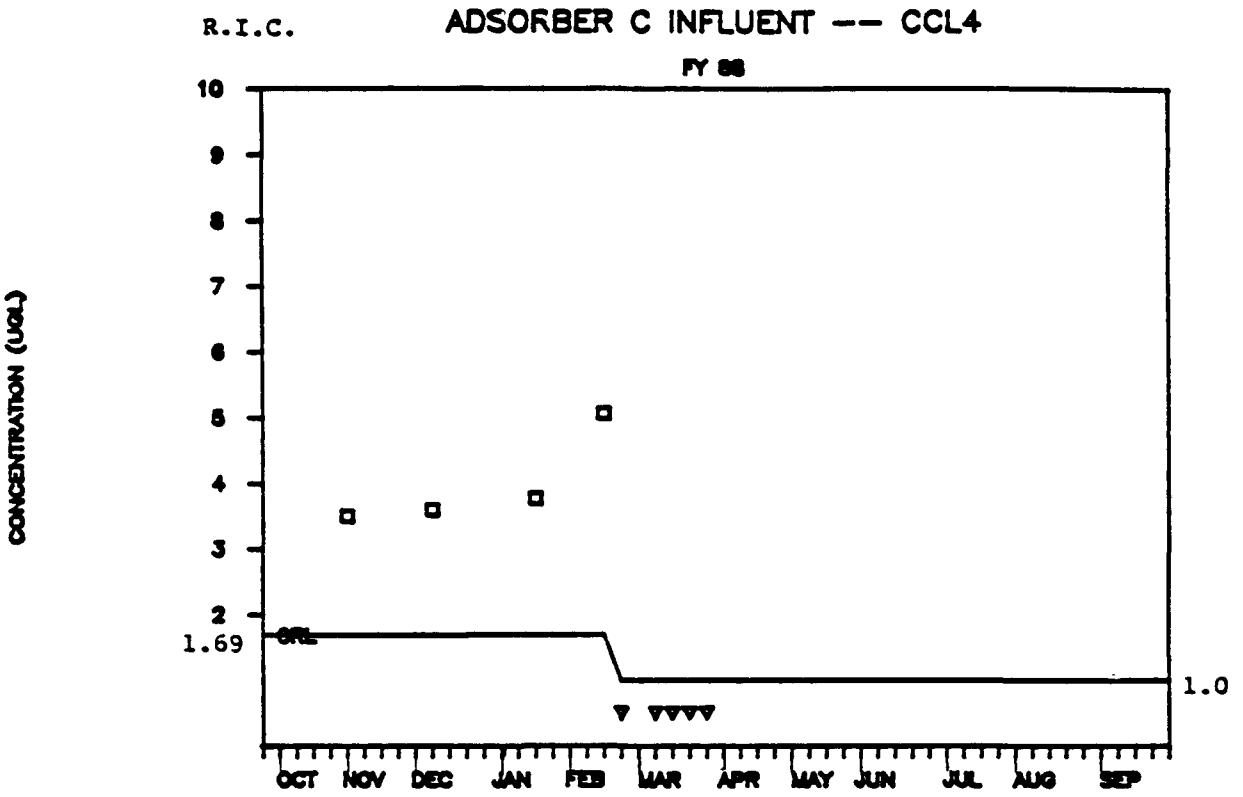


Figure 12. FY88 Carbon Tetrachloride (continued).



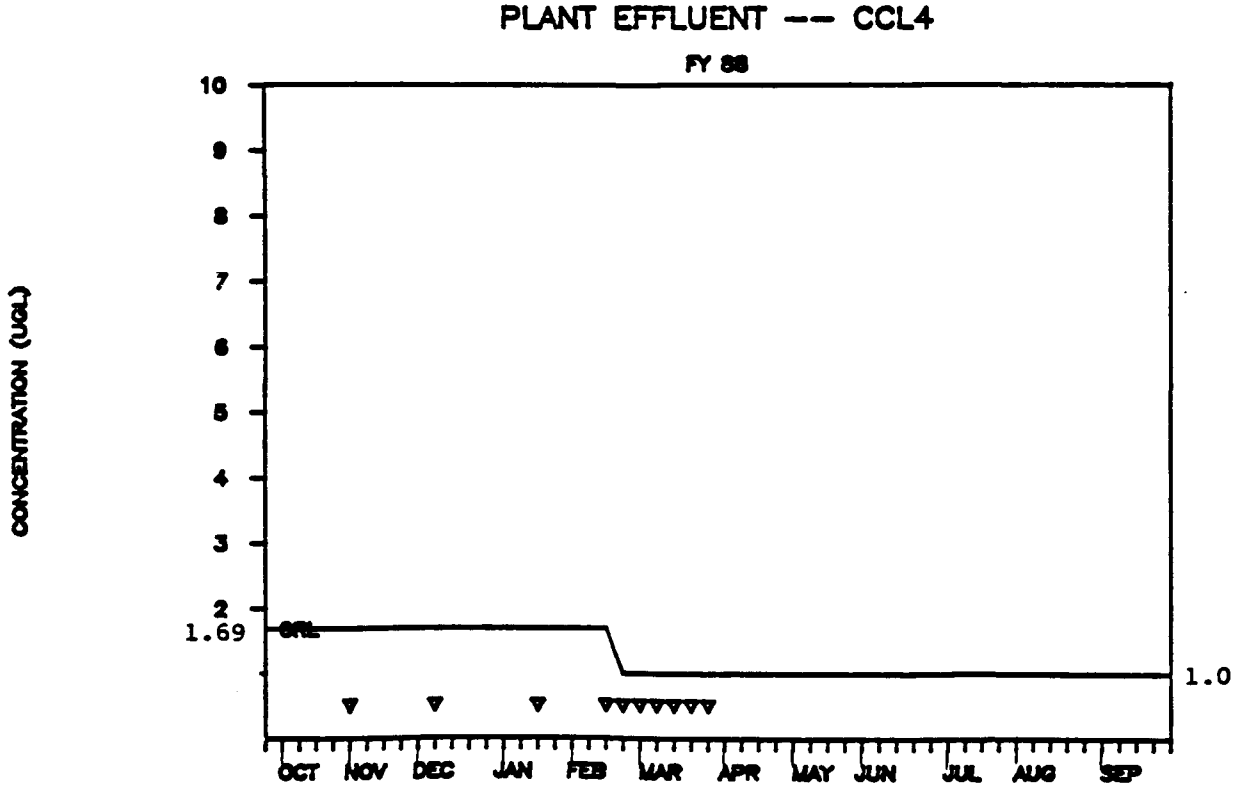
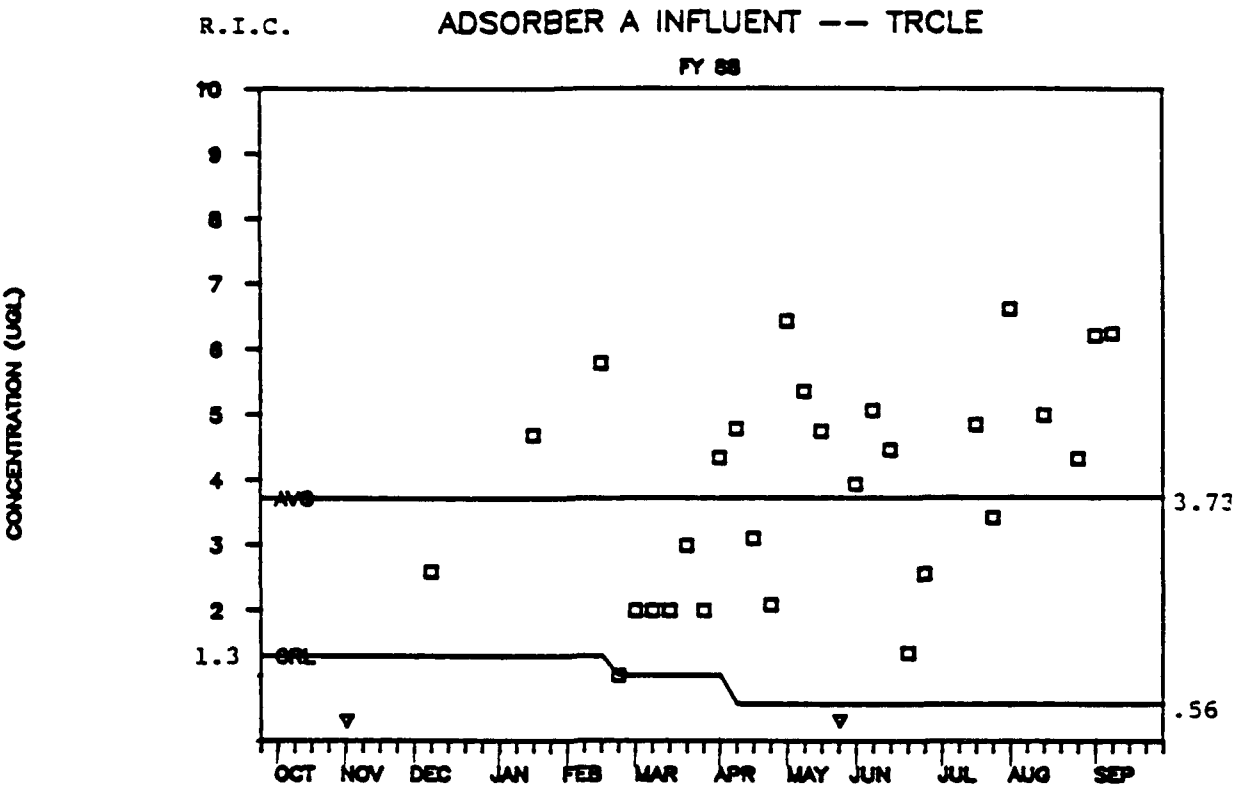


Figure 12. FY88 Carbon Tetrachloride (concluded).



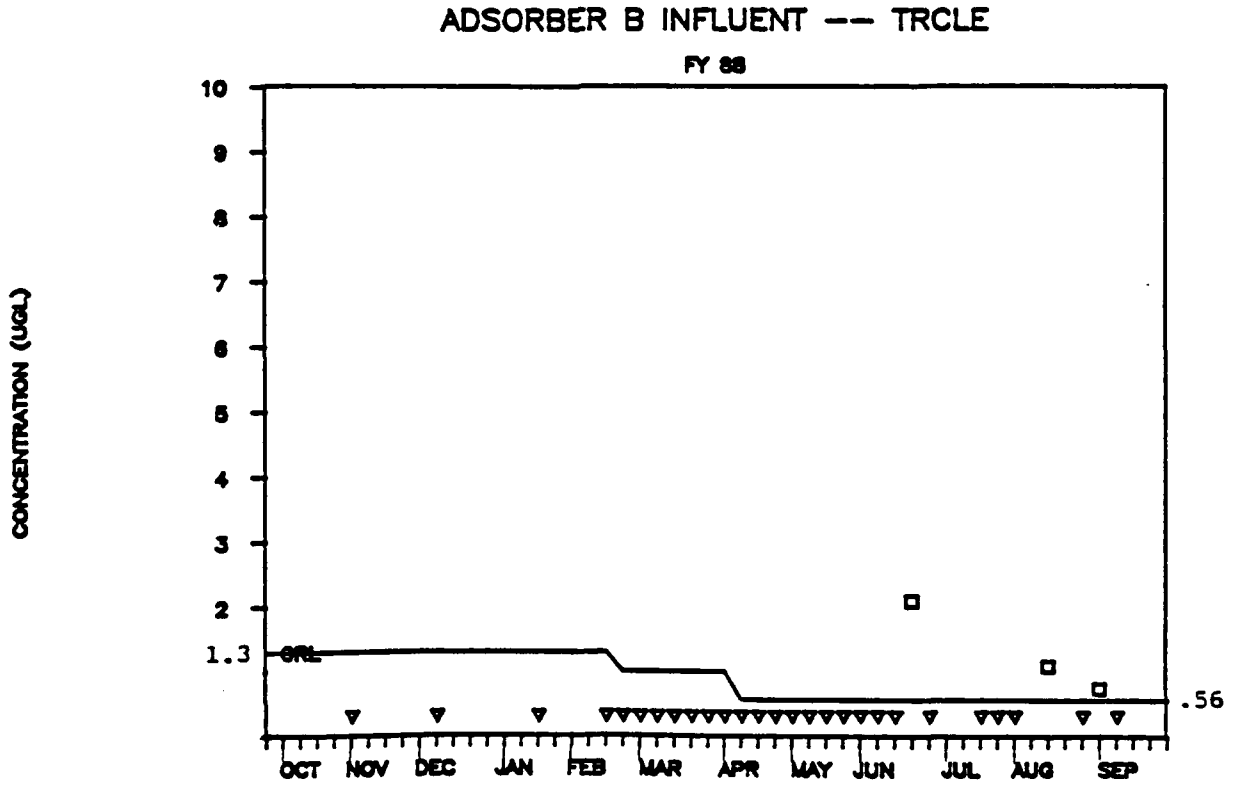
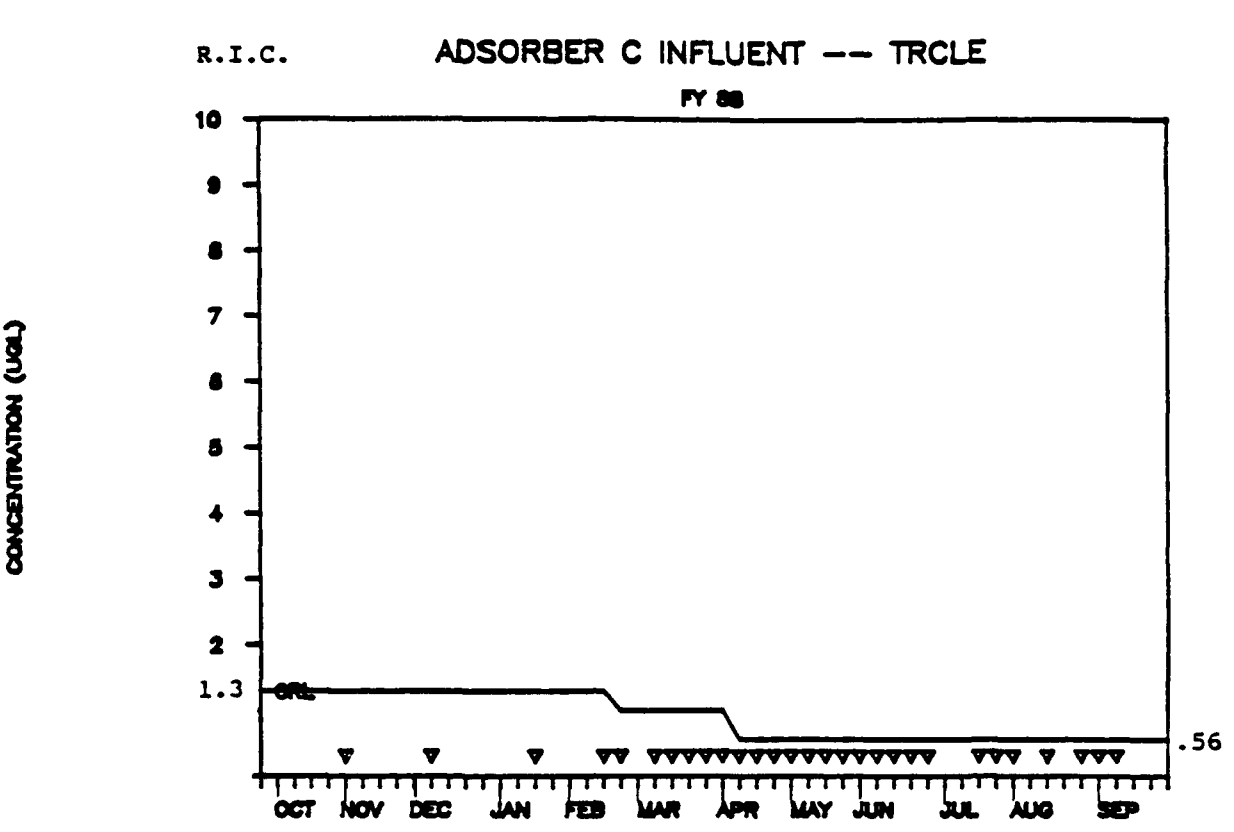


Figure 13. FY88 Trichloroethylene (continued).



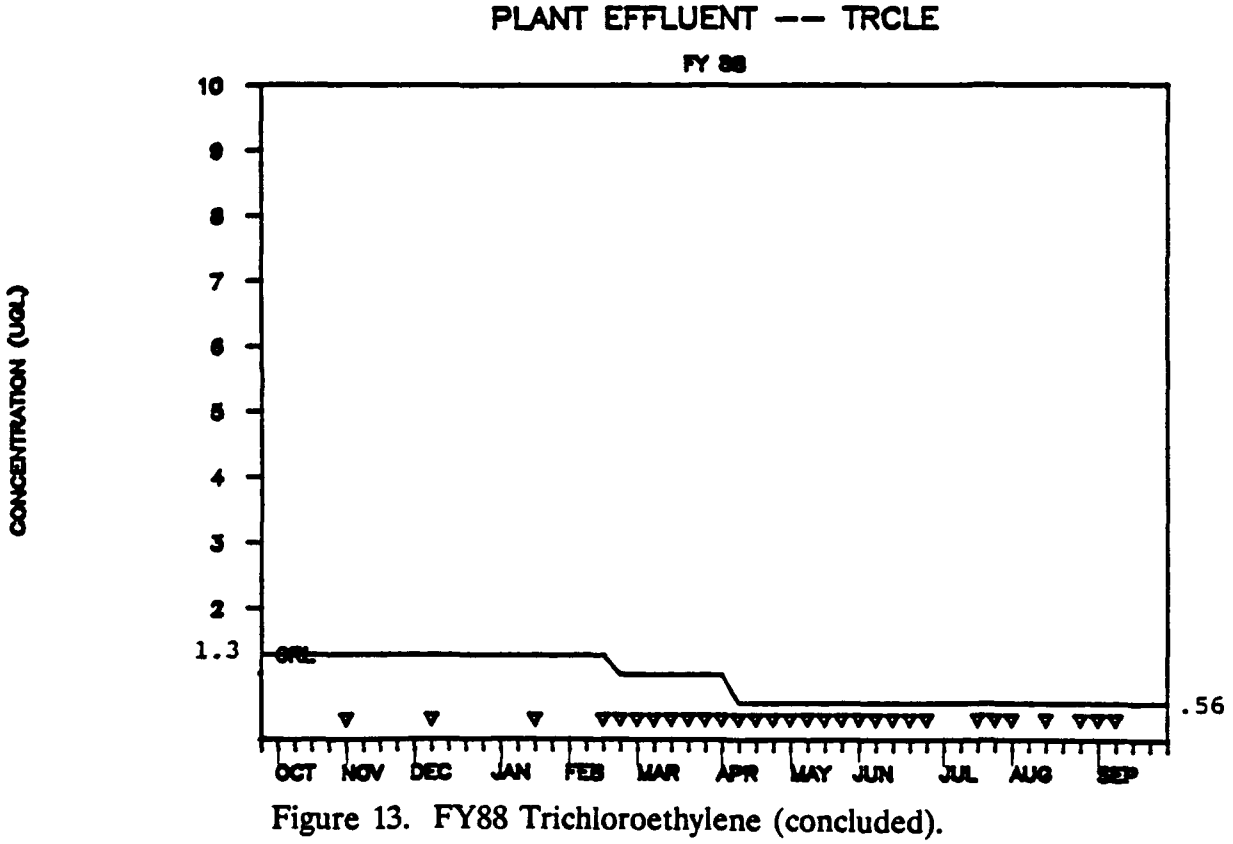
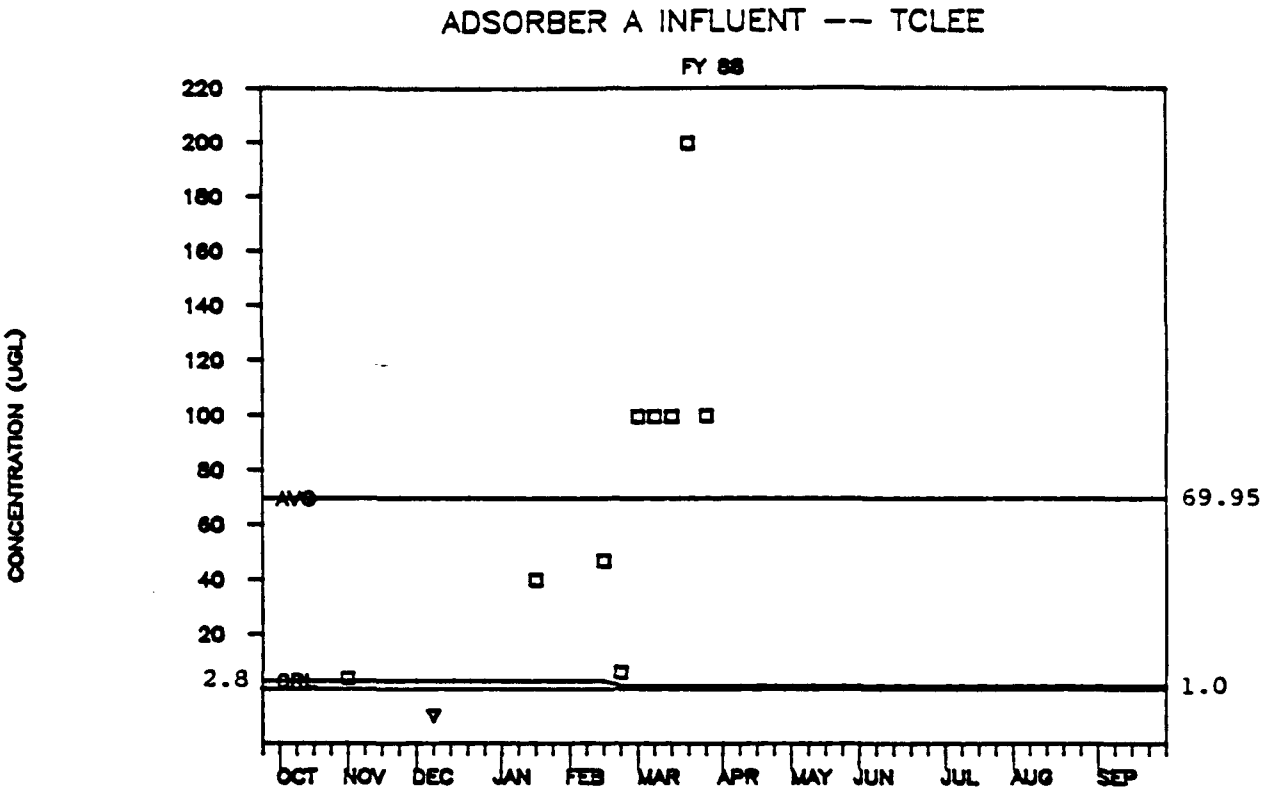


Figure 13. FY88 Trichloroethylene (concluded).



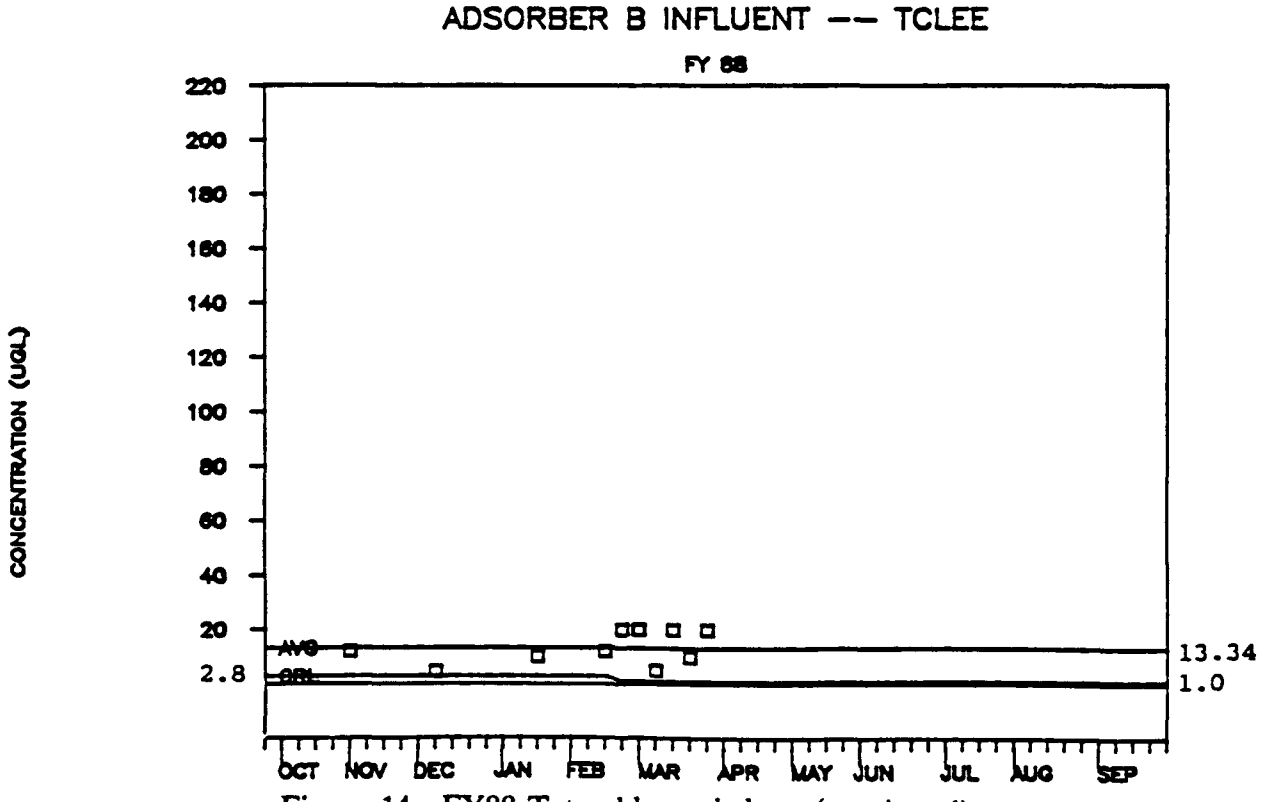
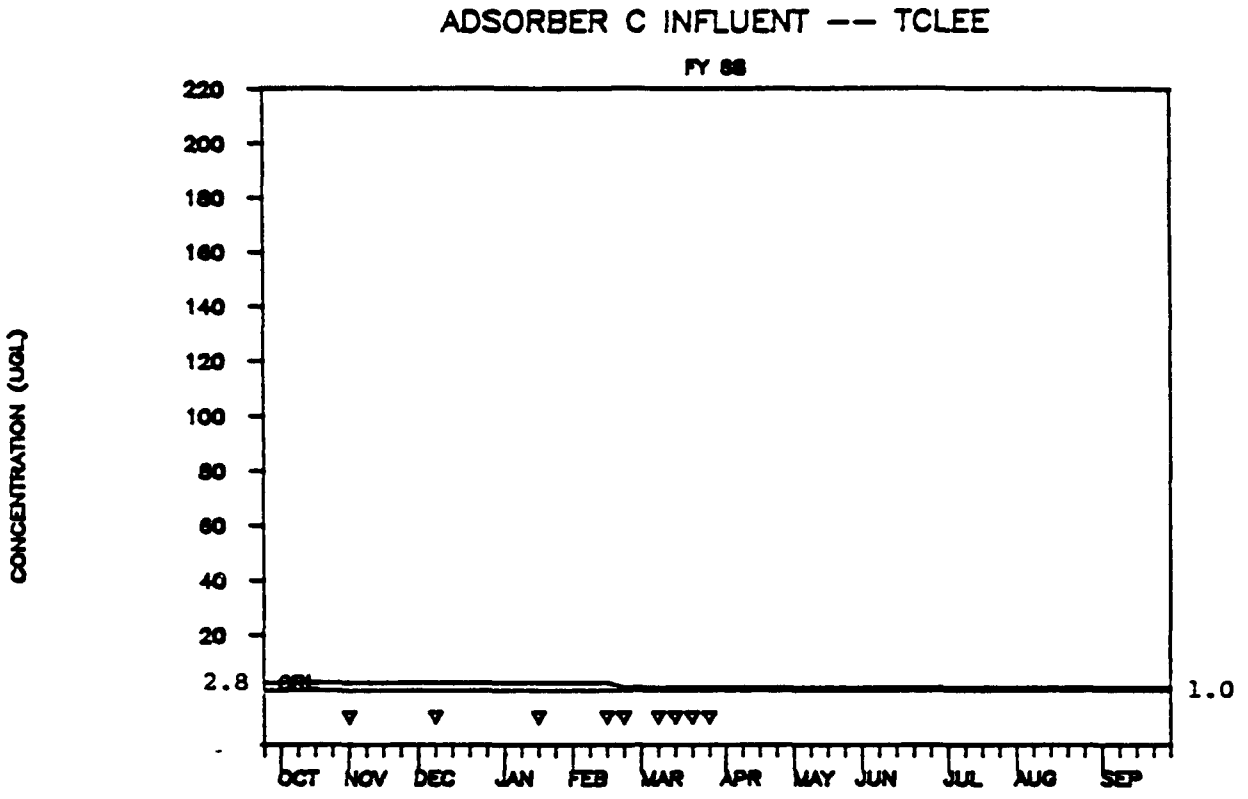


Figure 14. FY88 Tetrachloroethylene (continued).



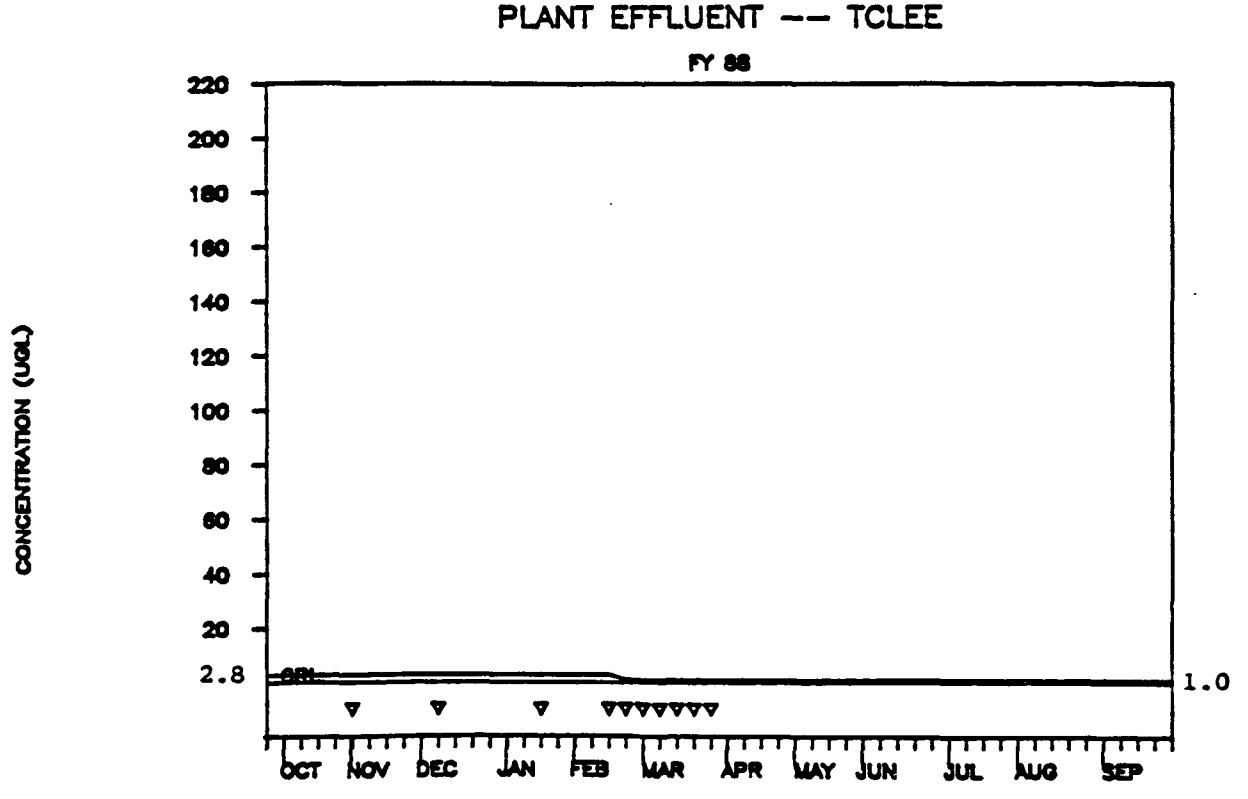


Figure 14. FY88 Tetrachloroethylene (concluded).

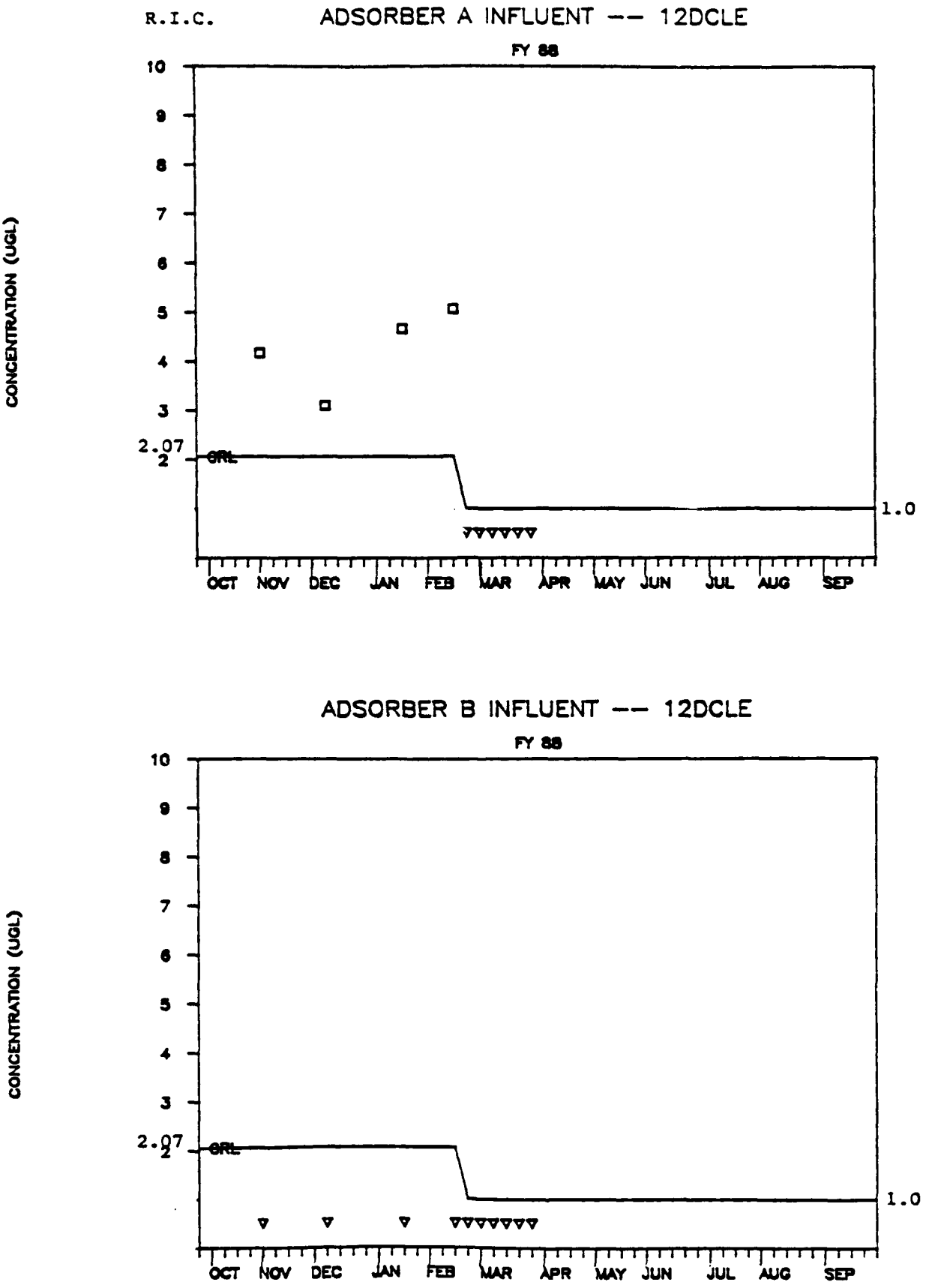
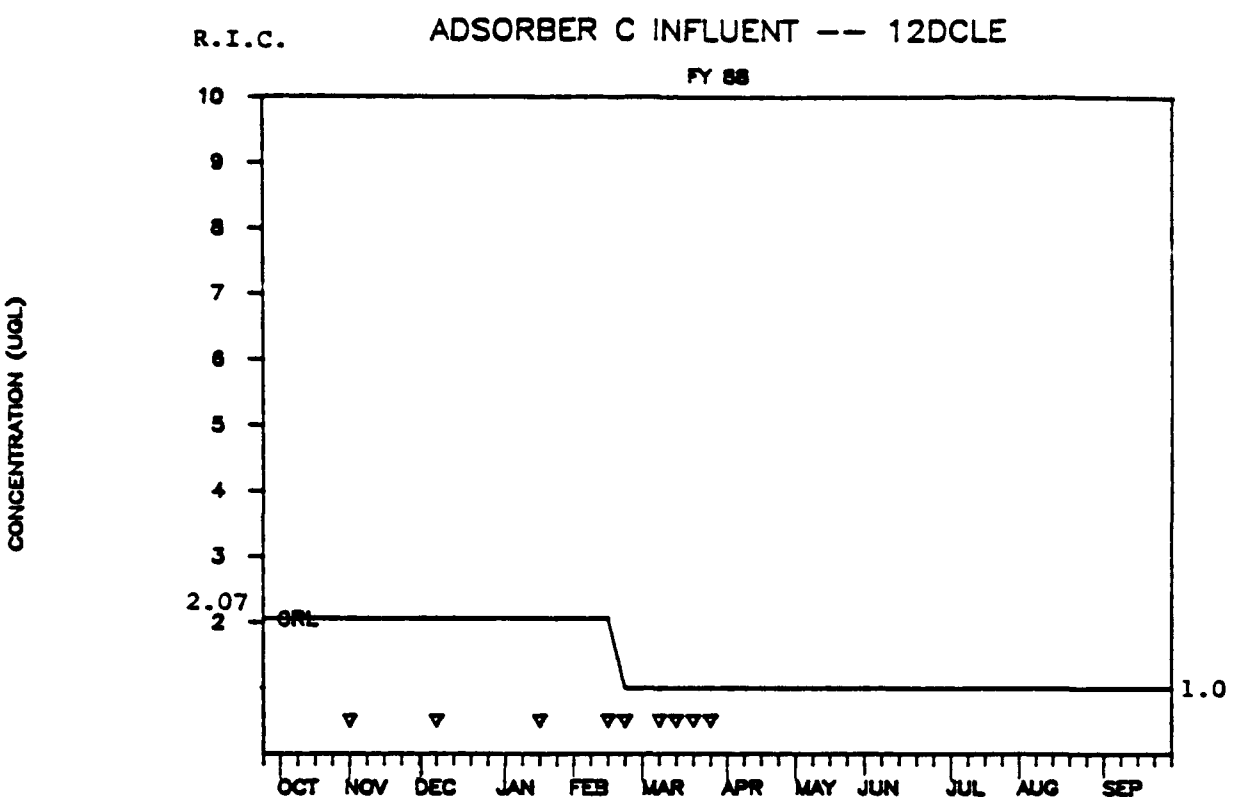


Figure 15. FY88 1,2 Dichloroethylene (continued).



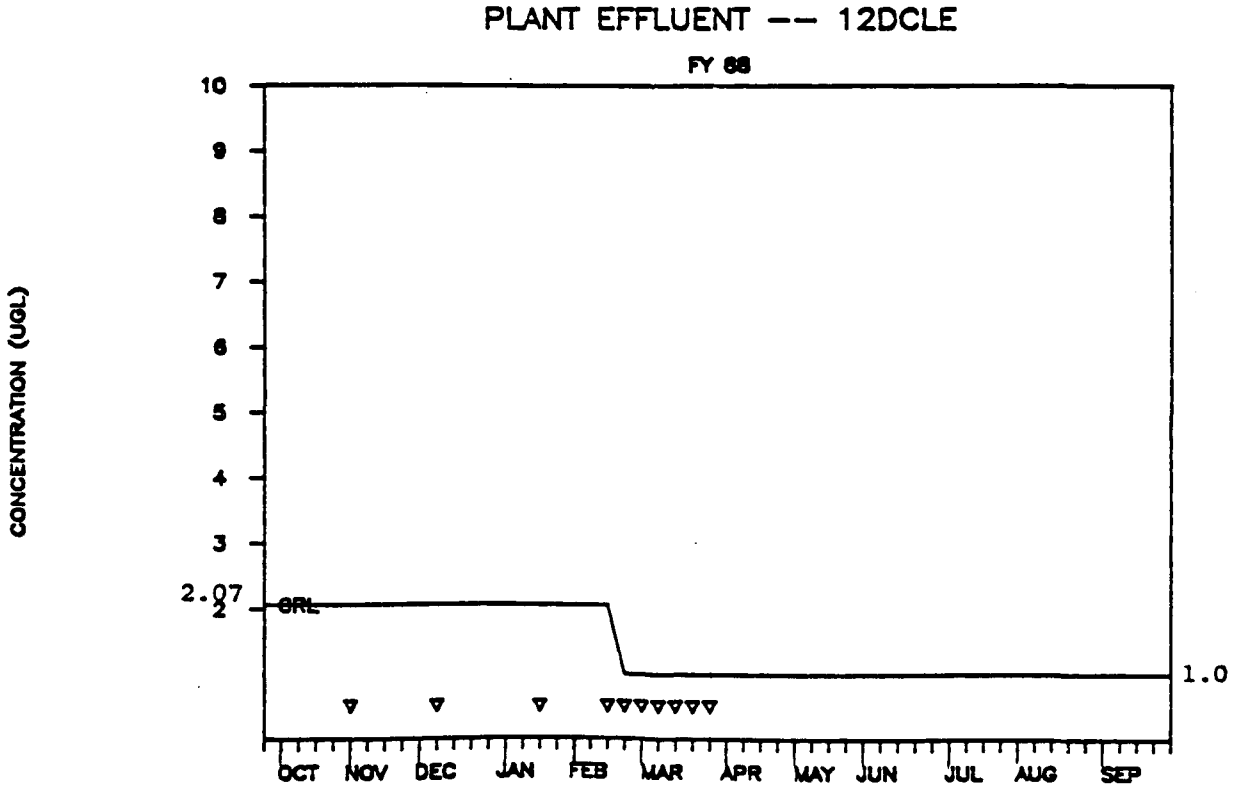
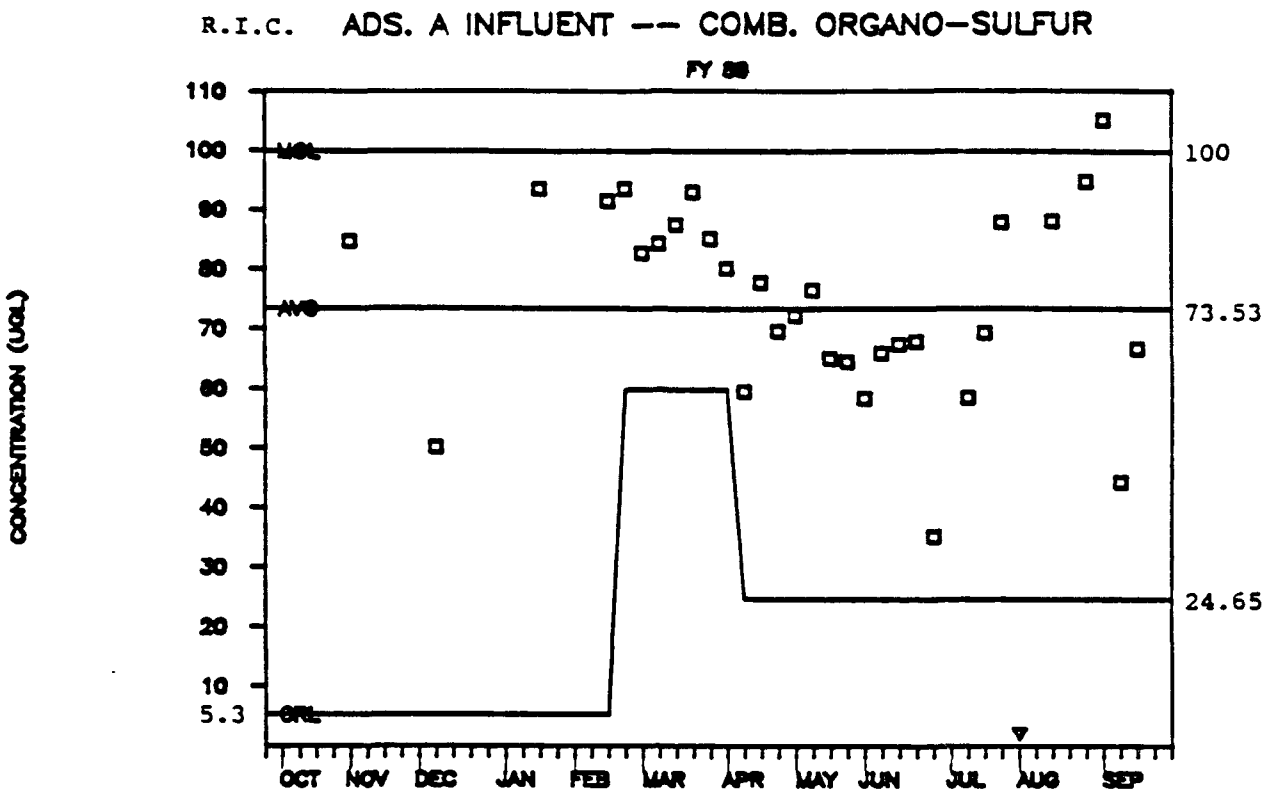


Figure 15. FY88 1,2 Dichloroethylene (concluded).



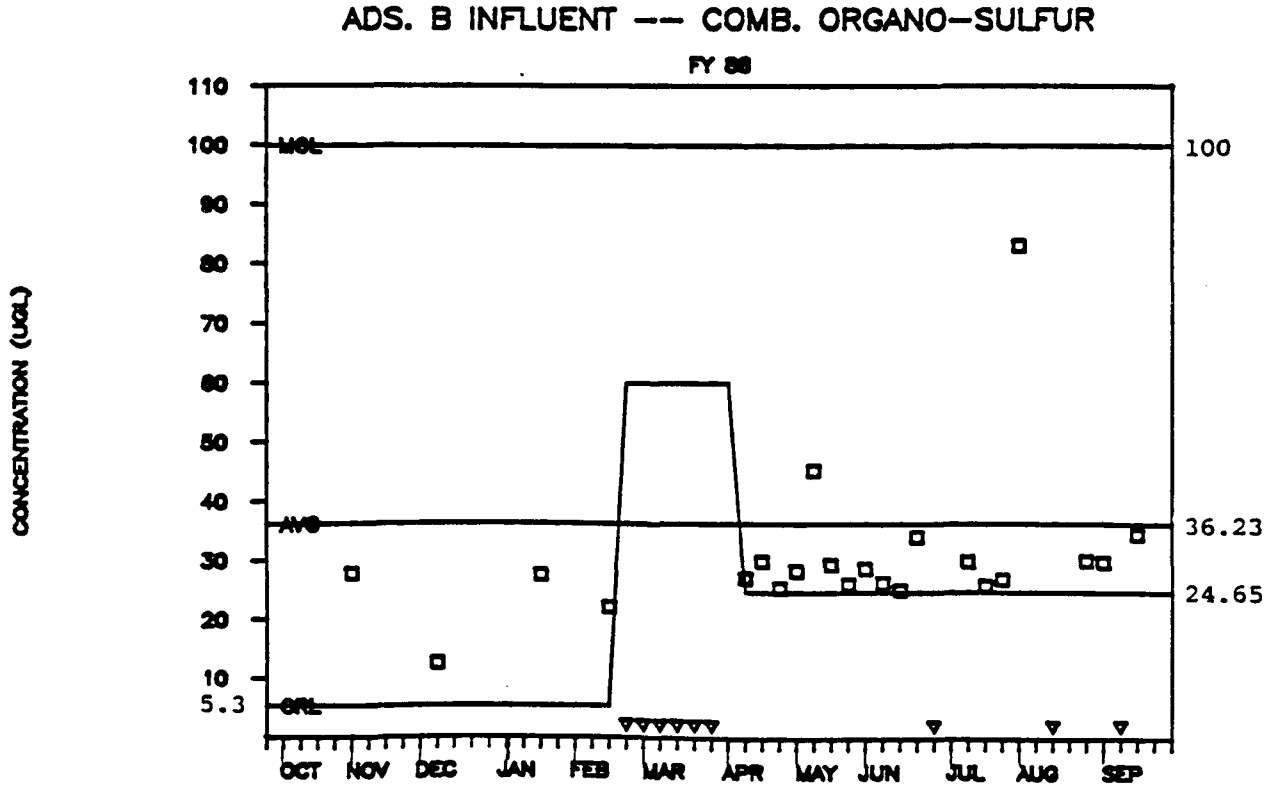
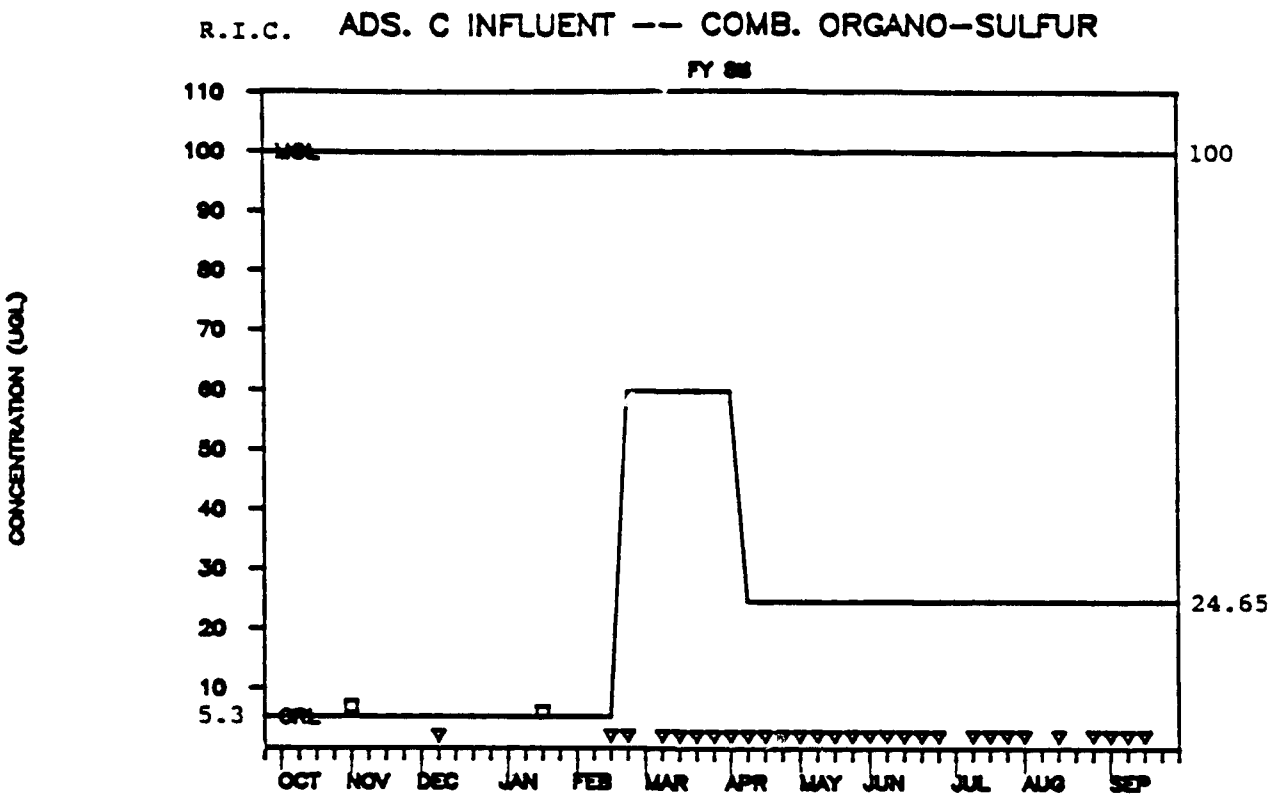


Figure 16. FY88 Combined organo-sulfurs (continued).



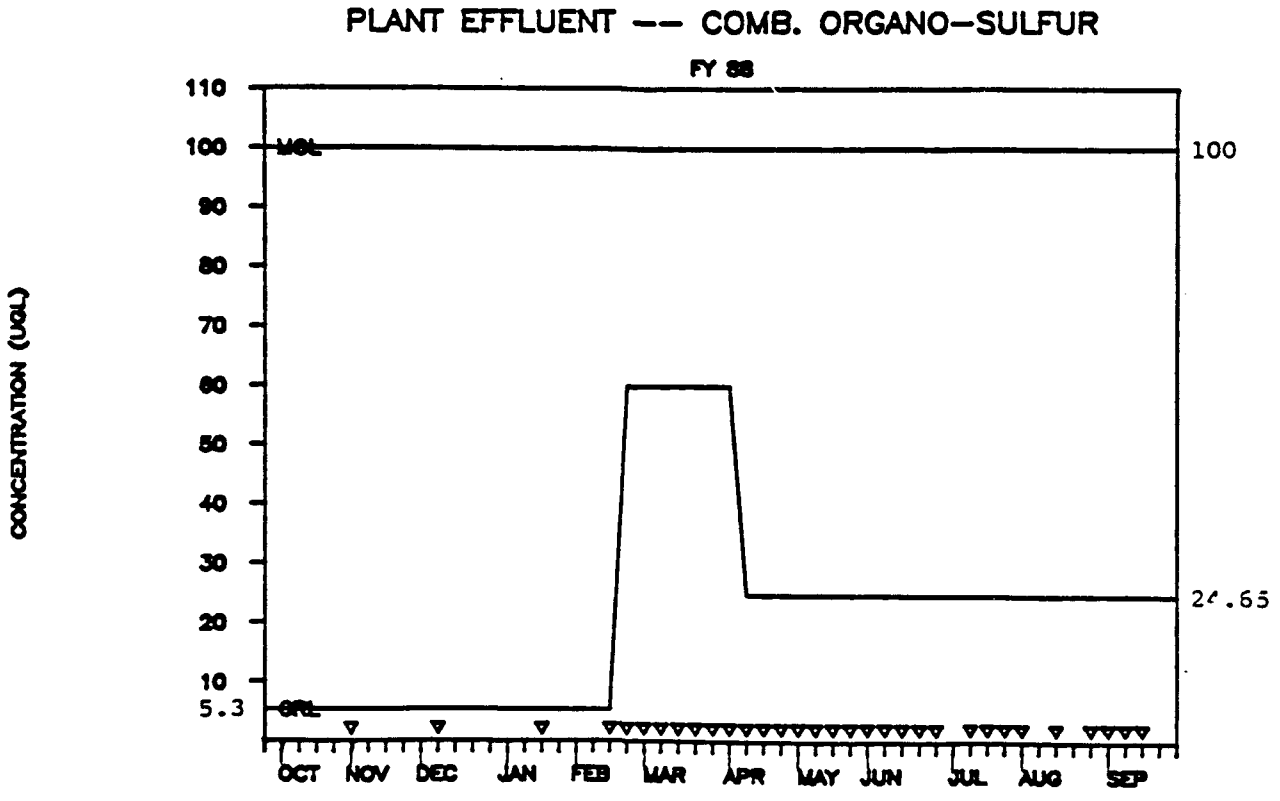
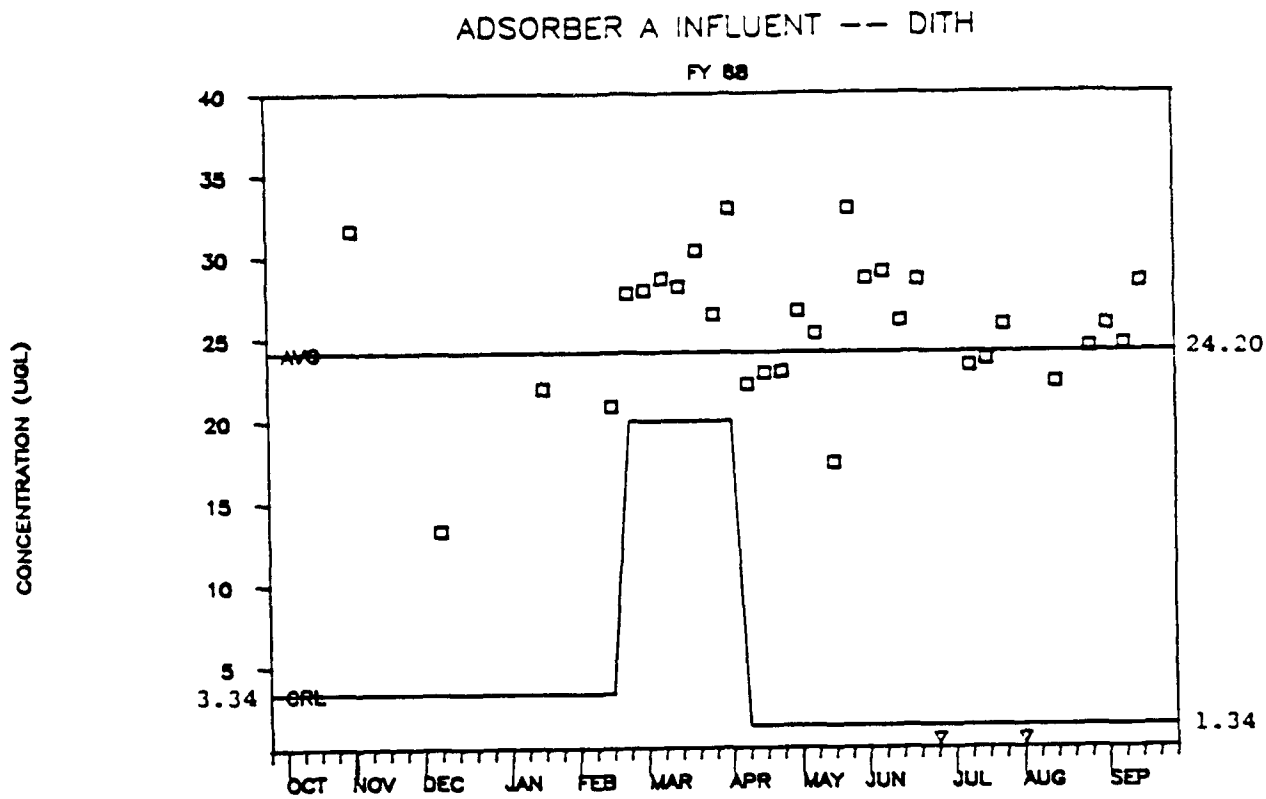


Figure 16. FY88 Combined organo-sulfurs (concluded).



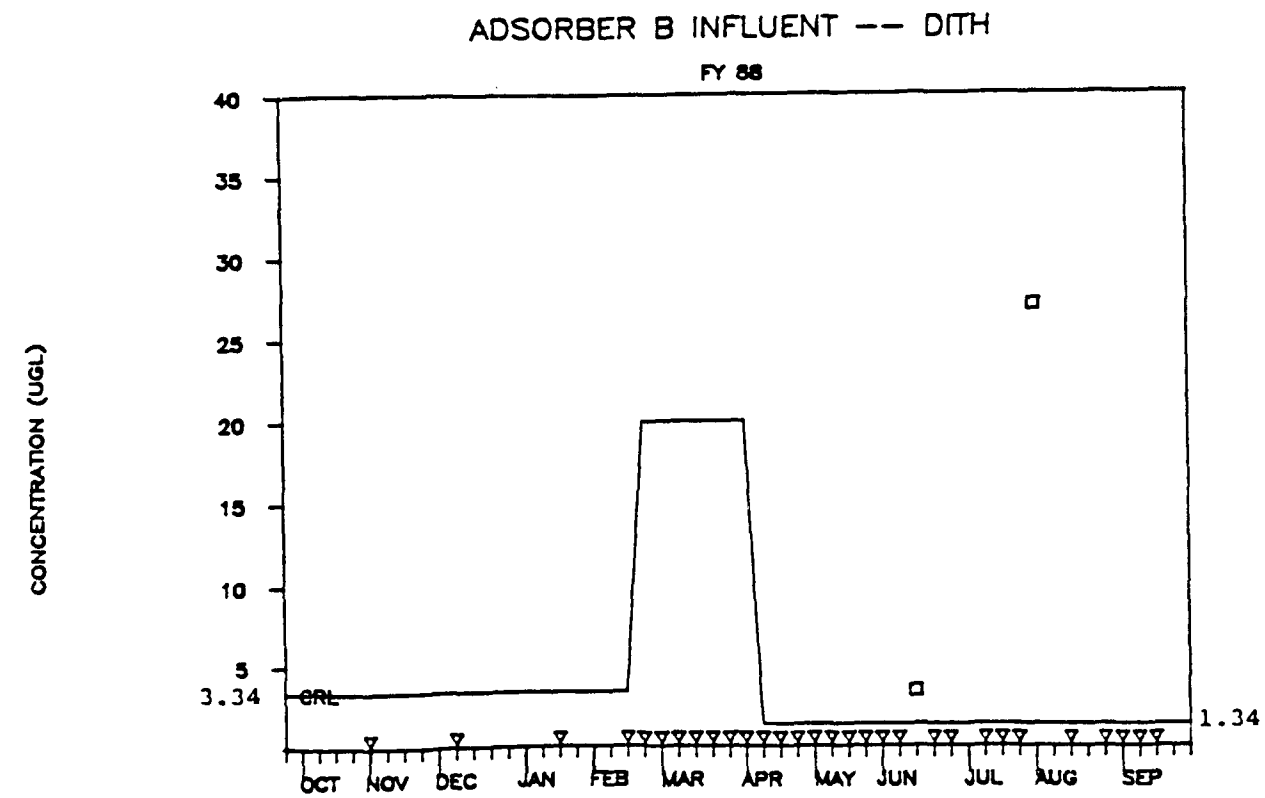
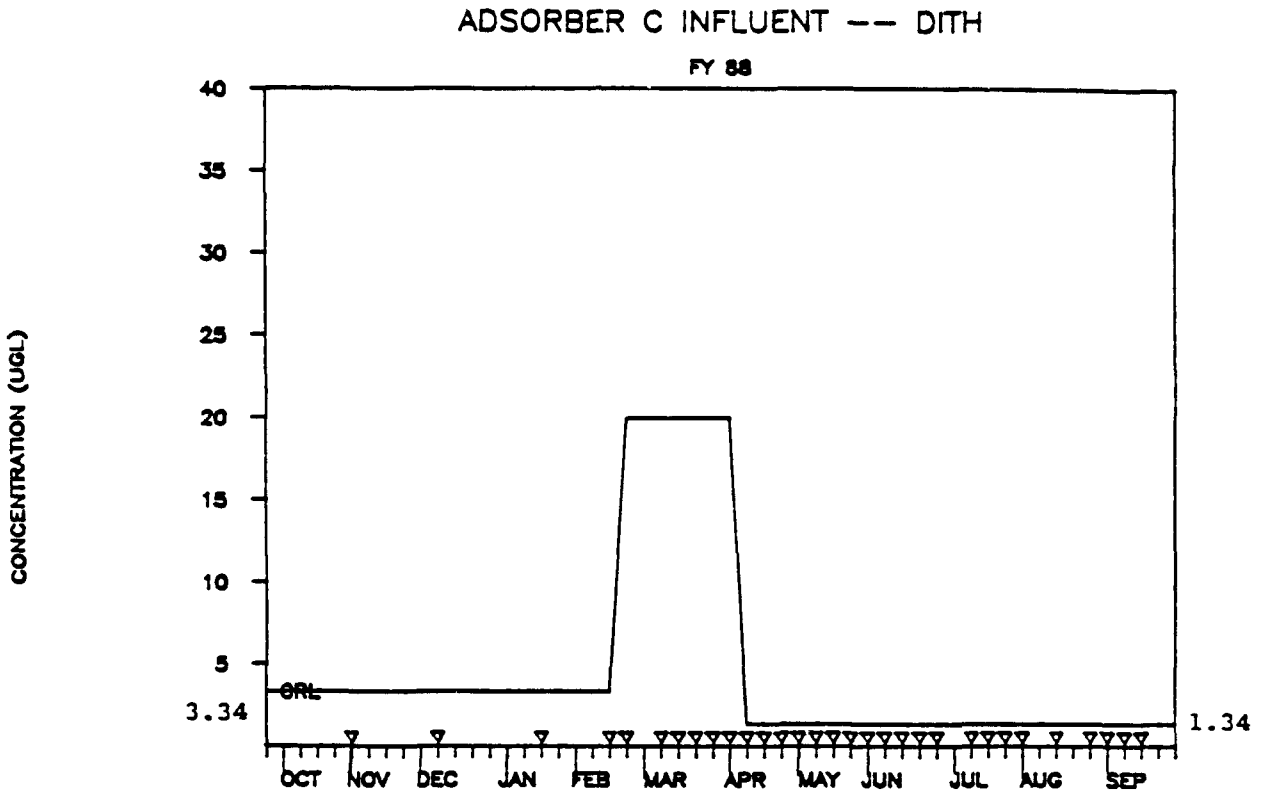


Figure 17. FY88 Dithiane (continued).



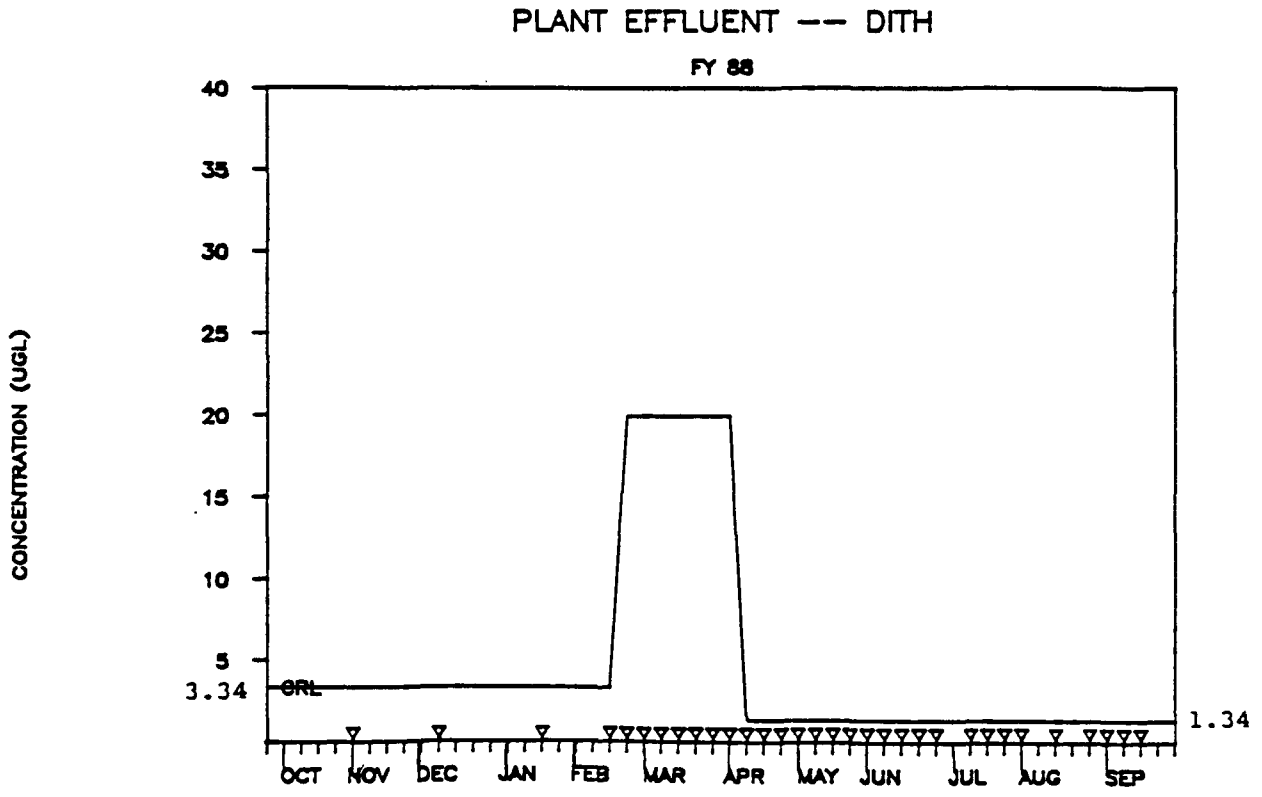
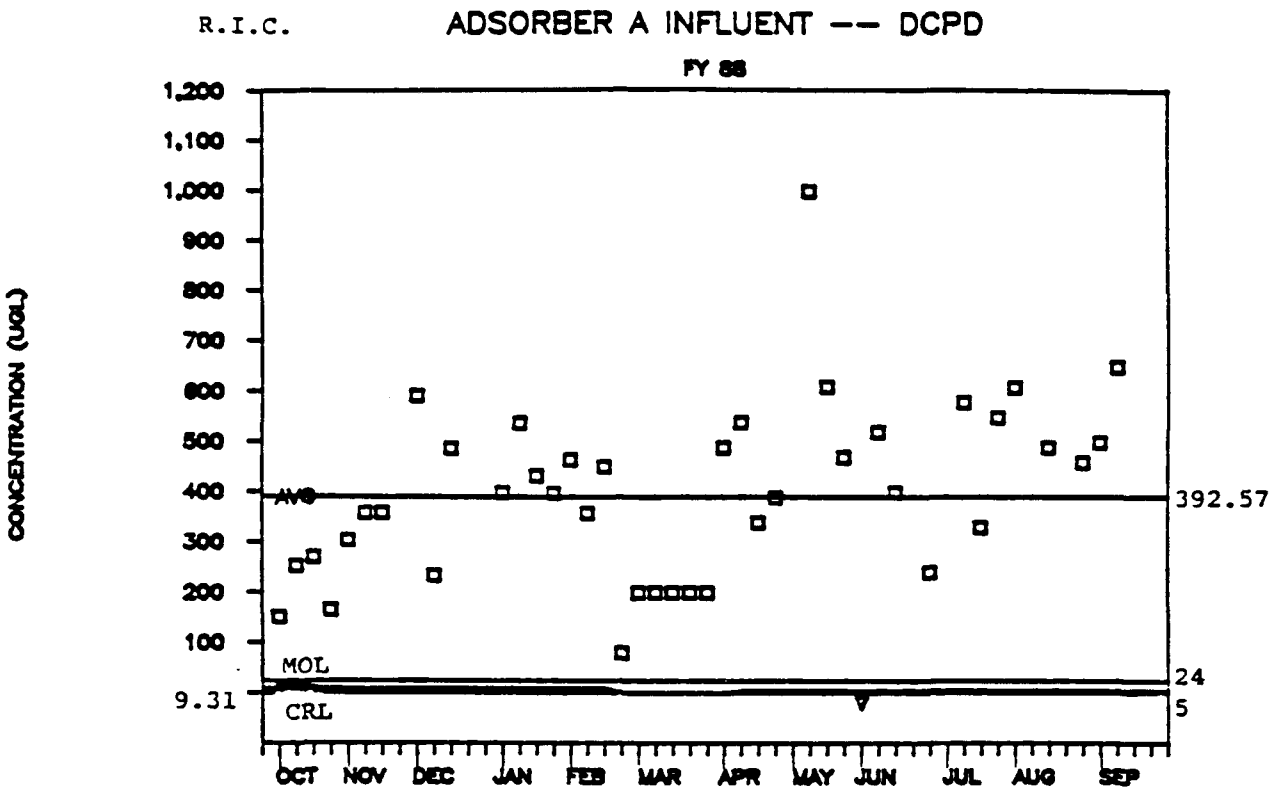


Figure 17. FY88 Dithiane (concluded).



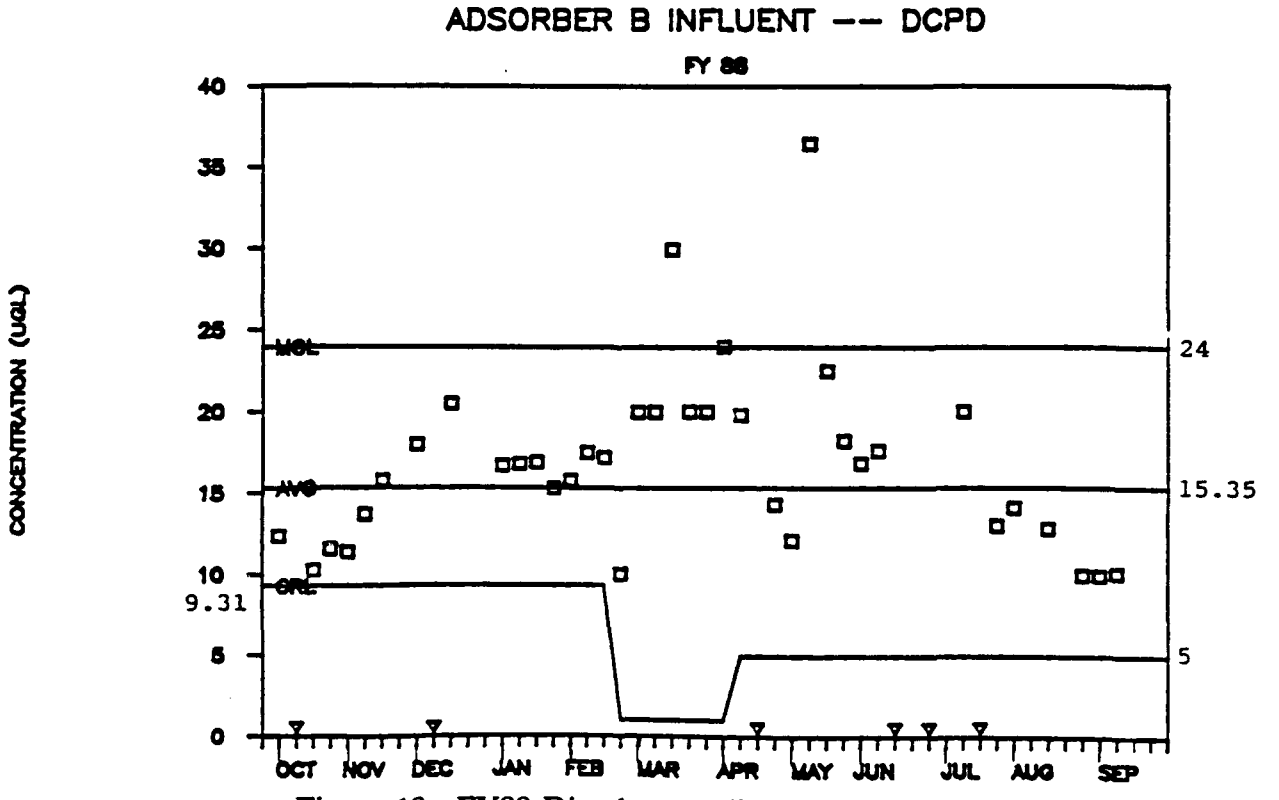
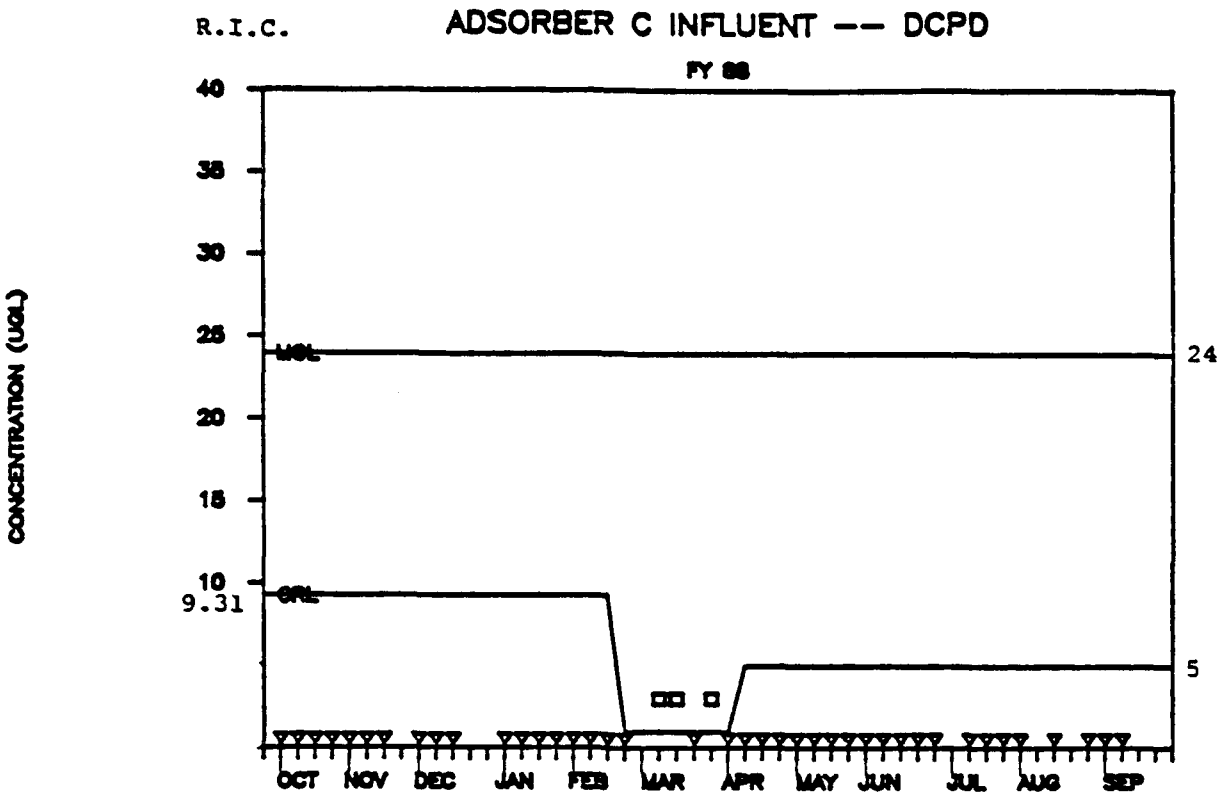


Figure 18. FY88 Dicyclopentadiene (continued).



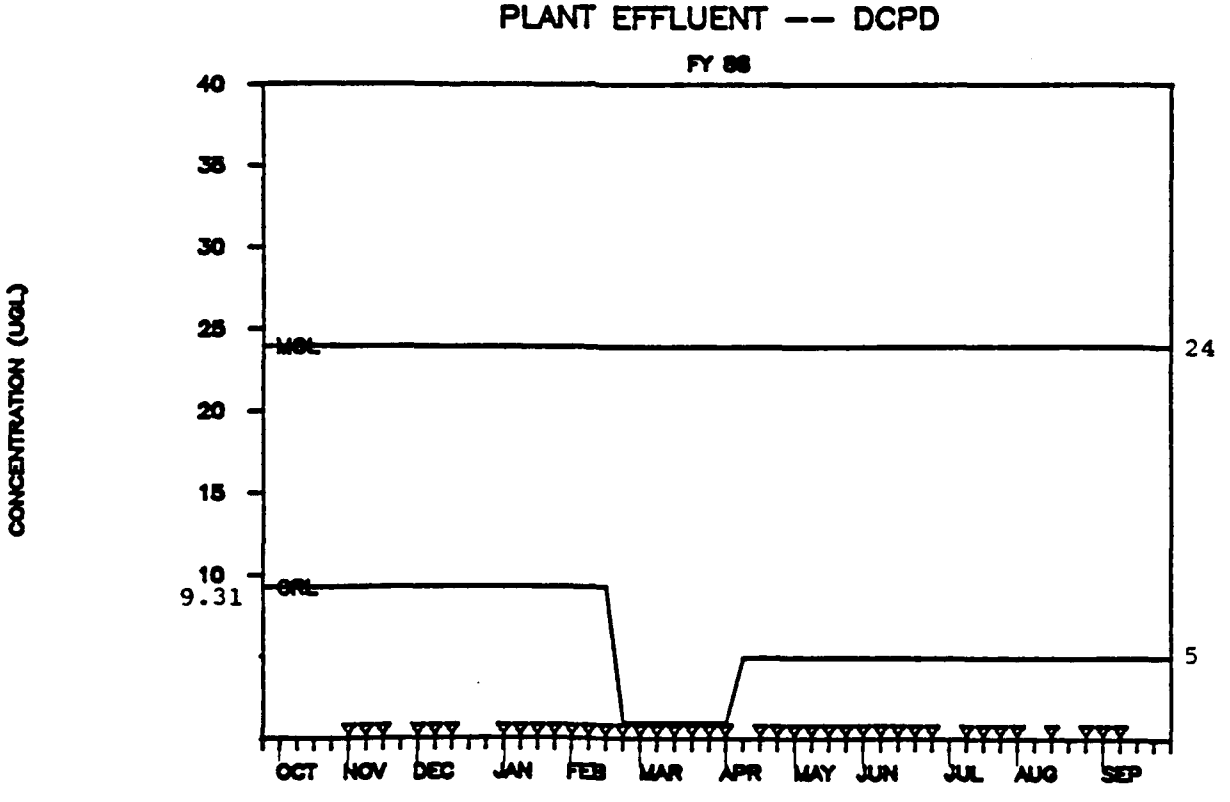
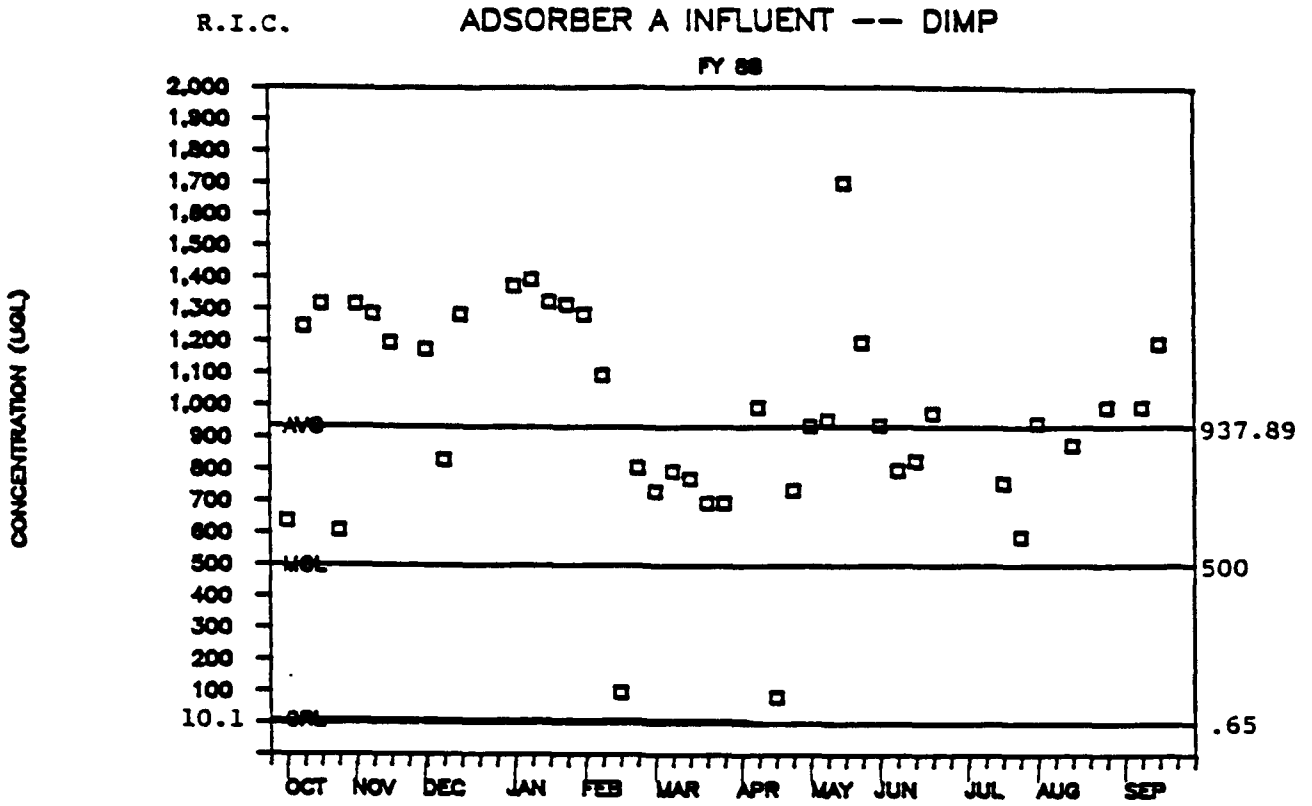


Figure 18. FY88 Dicyclopentadiene (concluded).



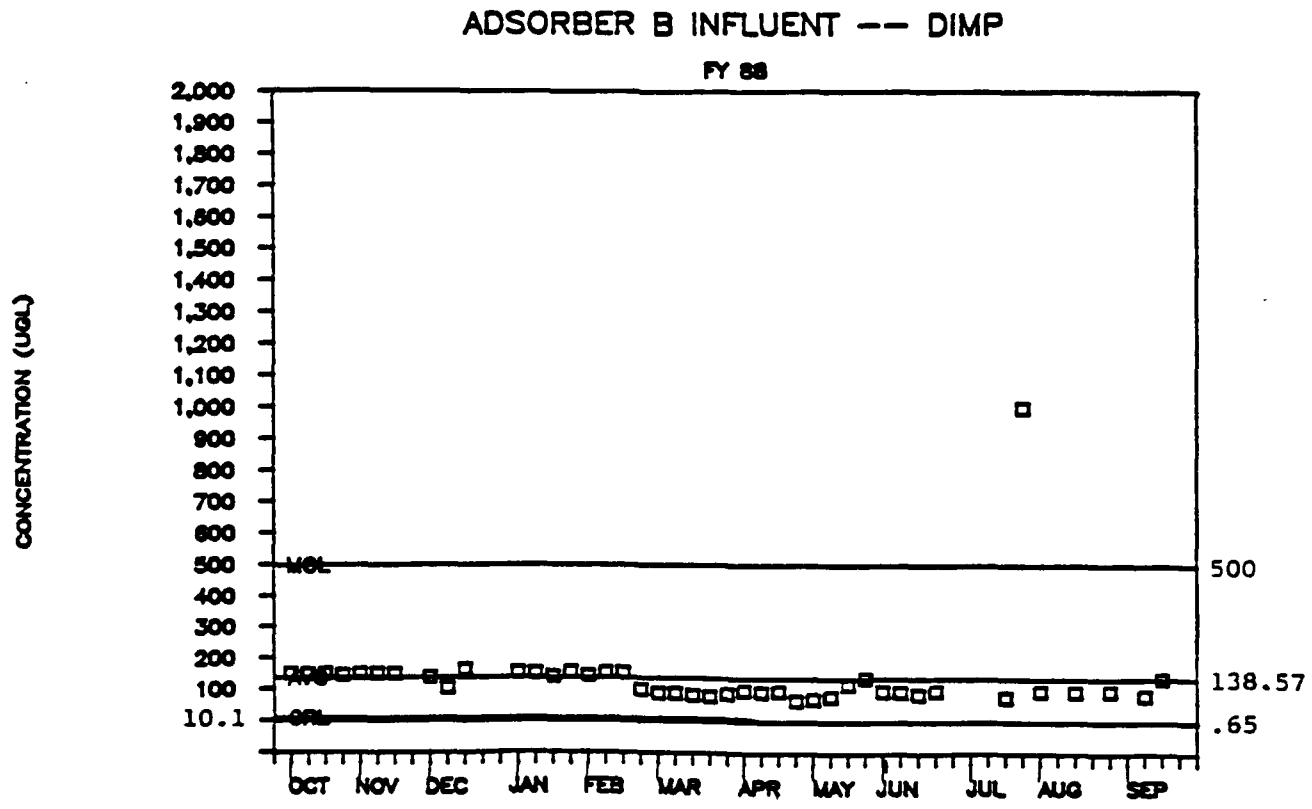
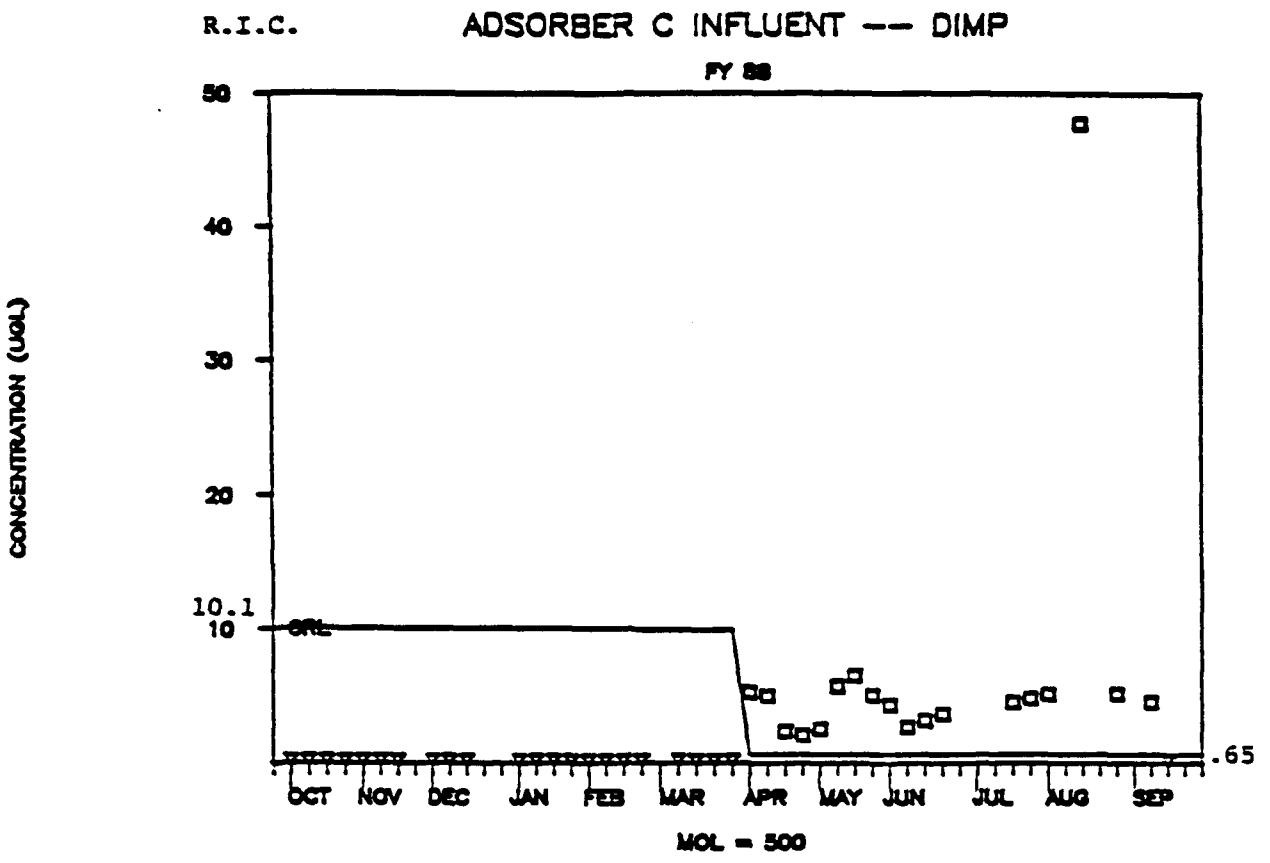


Figure 19. FY88 Diisopropylmethylphosphonate (continued).



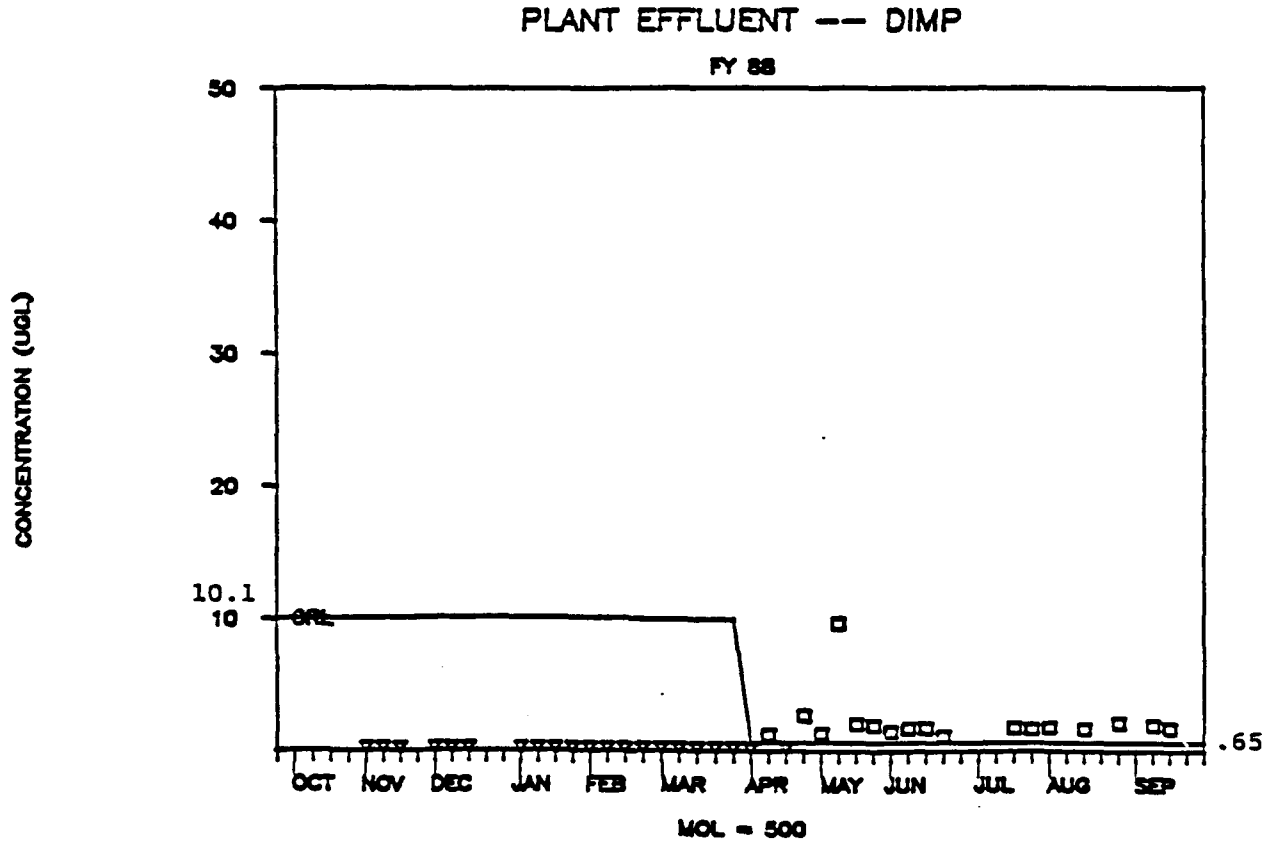
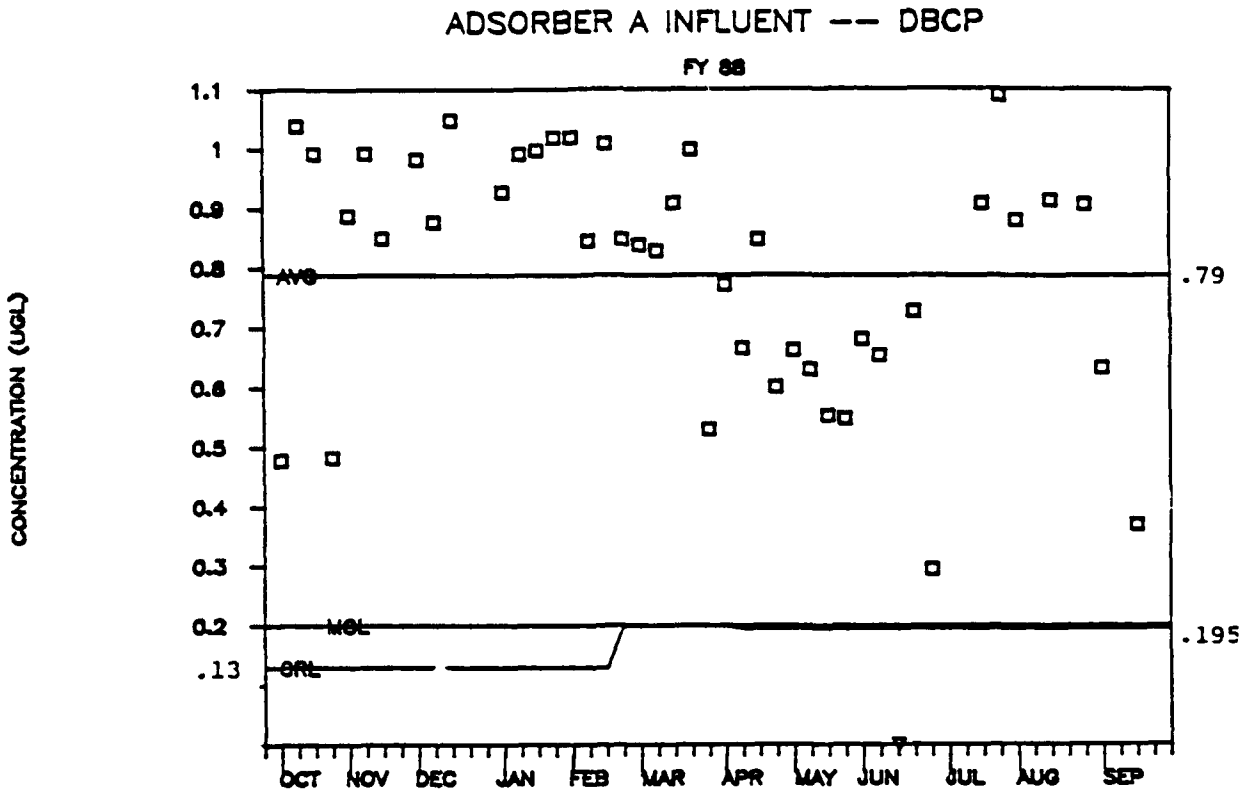


Figure 19. FY88 Diisopropylmethylphosphonate (concluded).



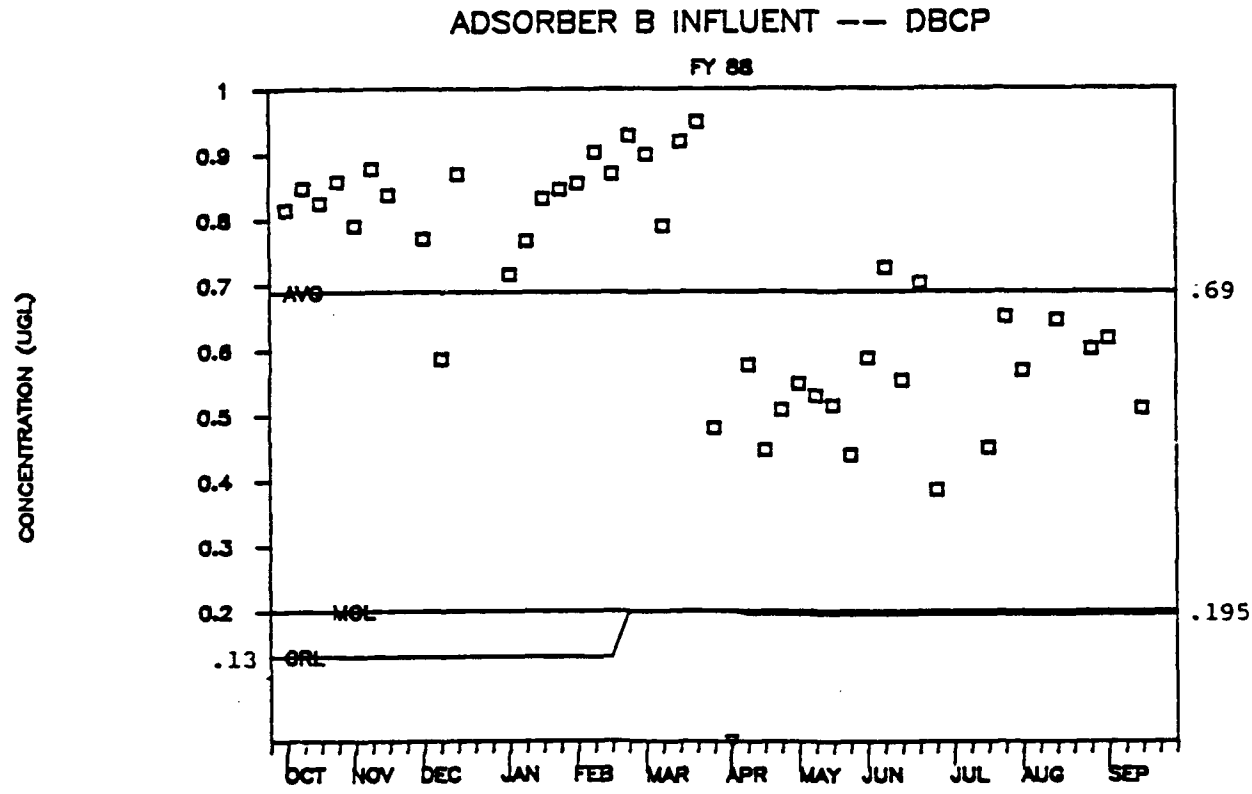
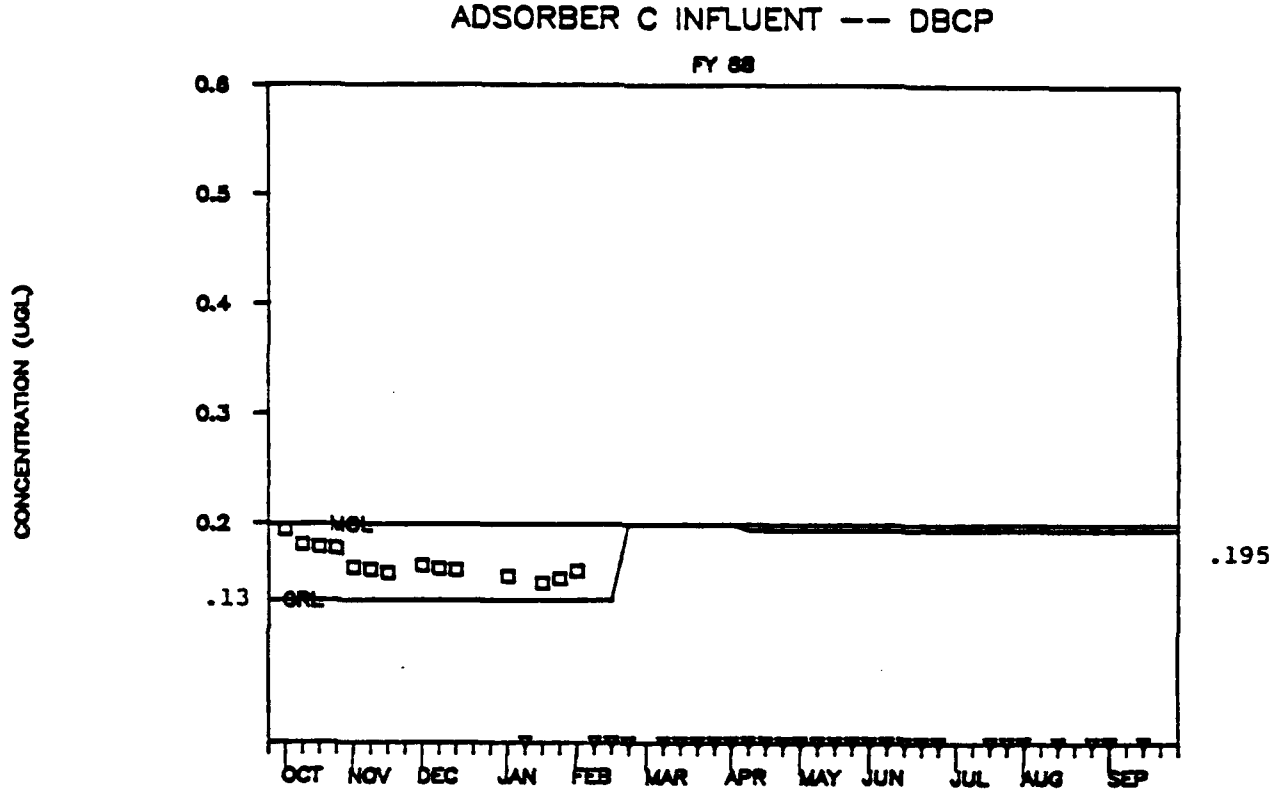


Figure 20. FY88 Dibromochloropropane (continued).



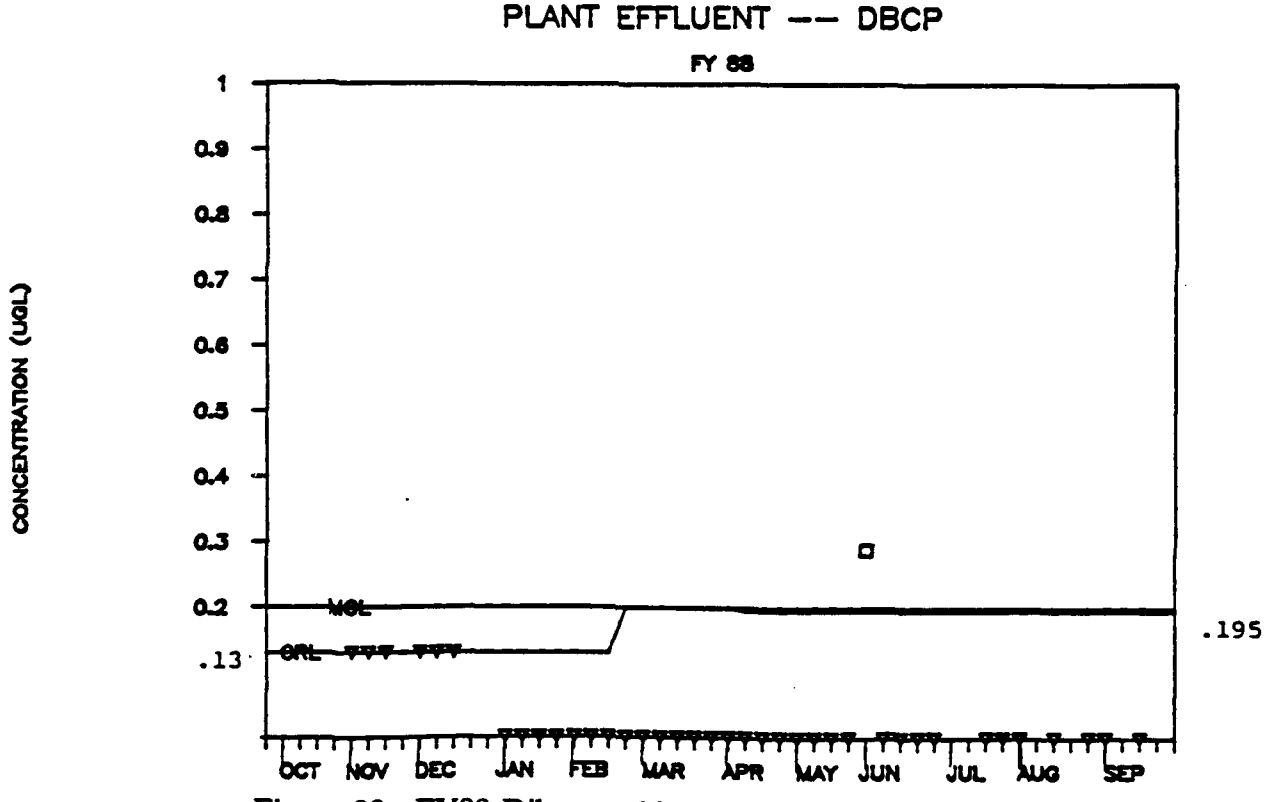
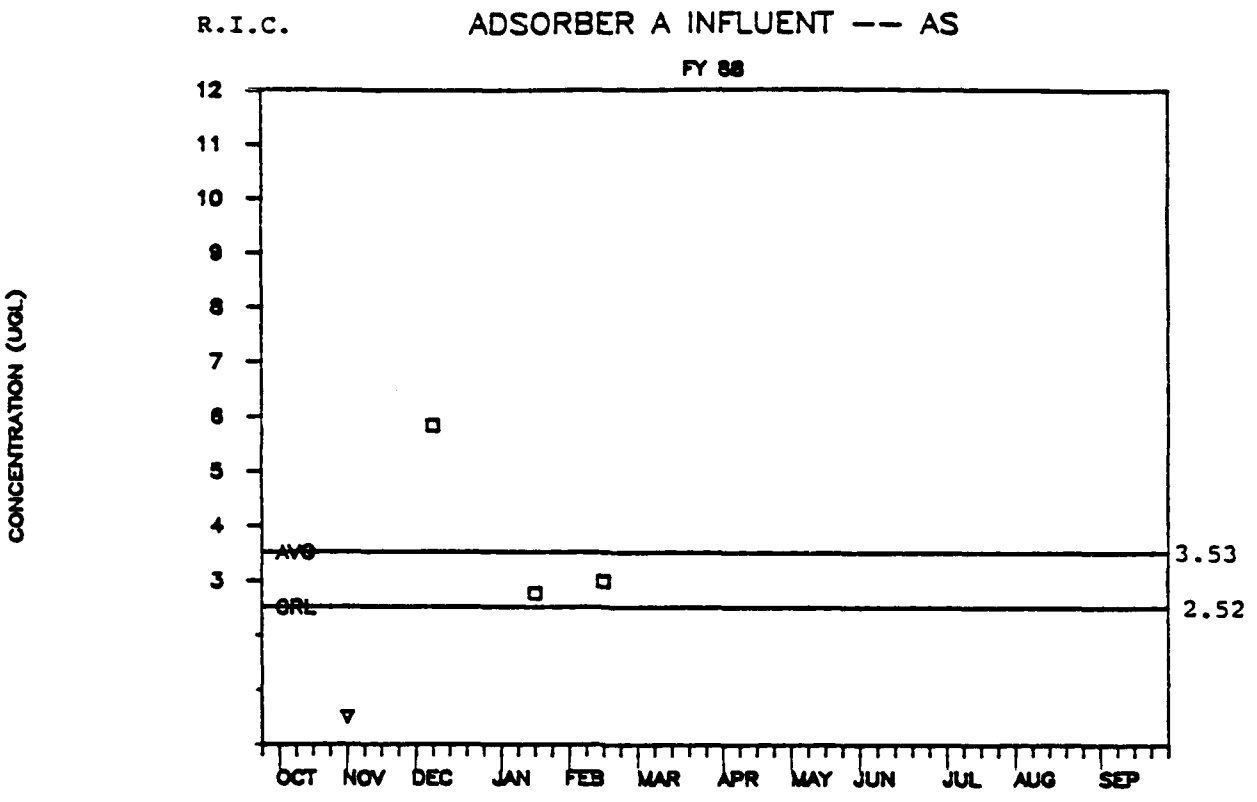


Figure 20. FY88 Dibromochloropropane (concluded).



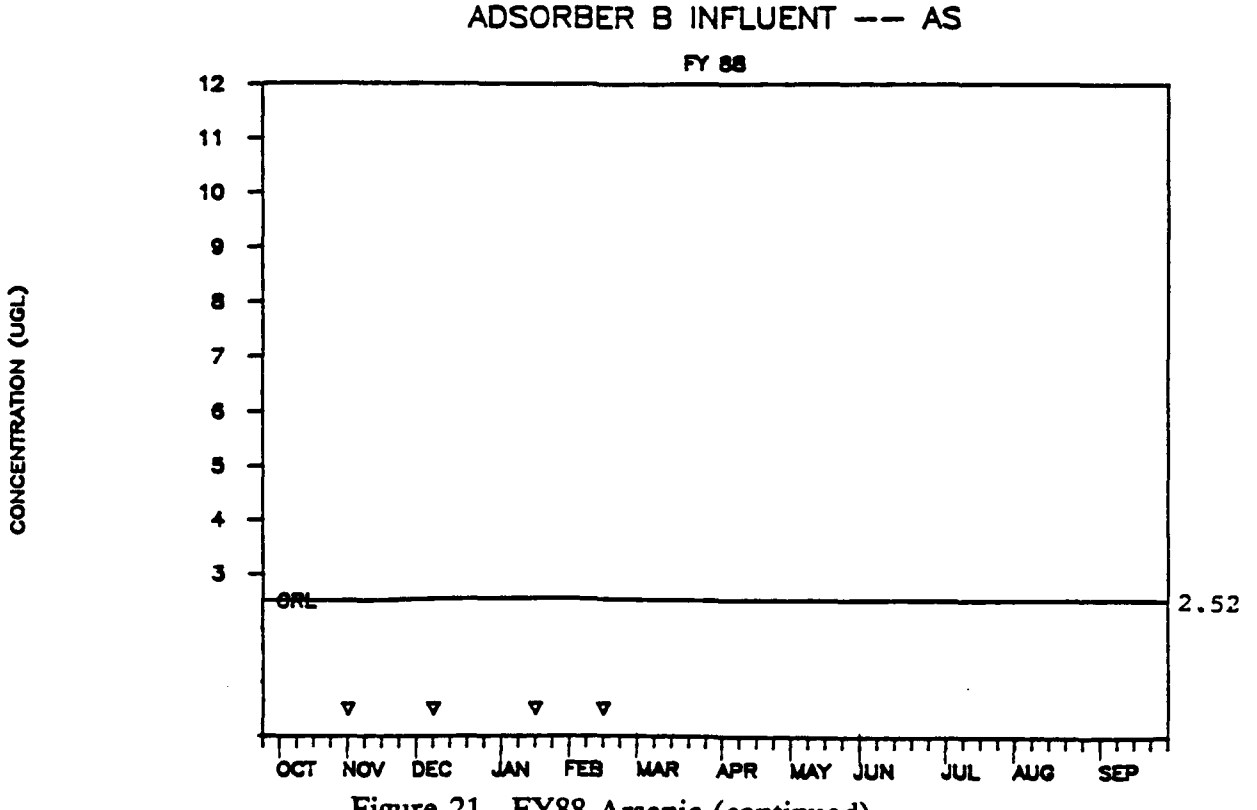
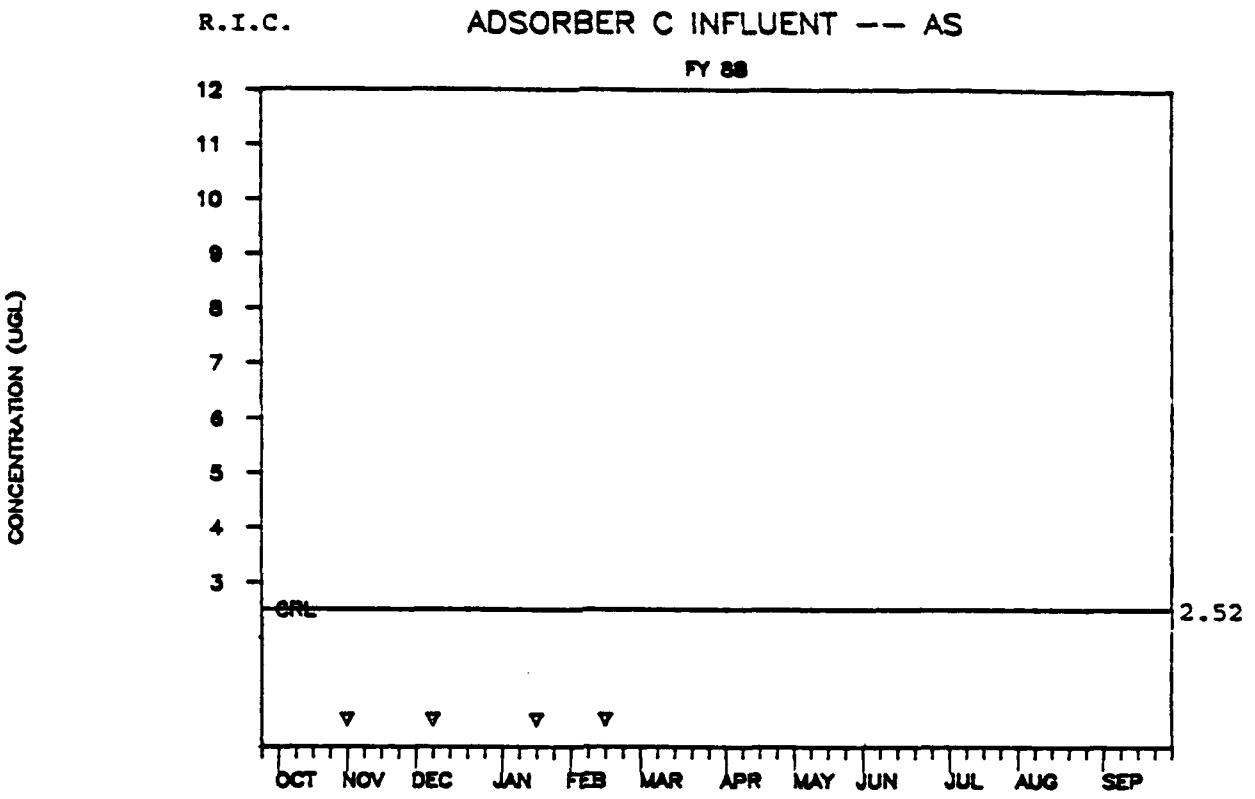


Figure 21. FY88 Arsenic (continued).



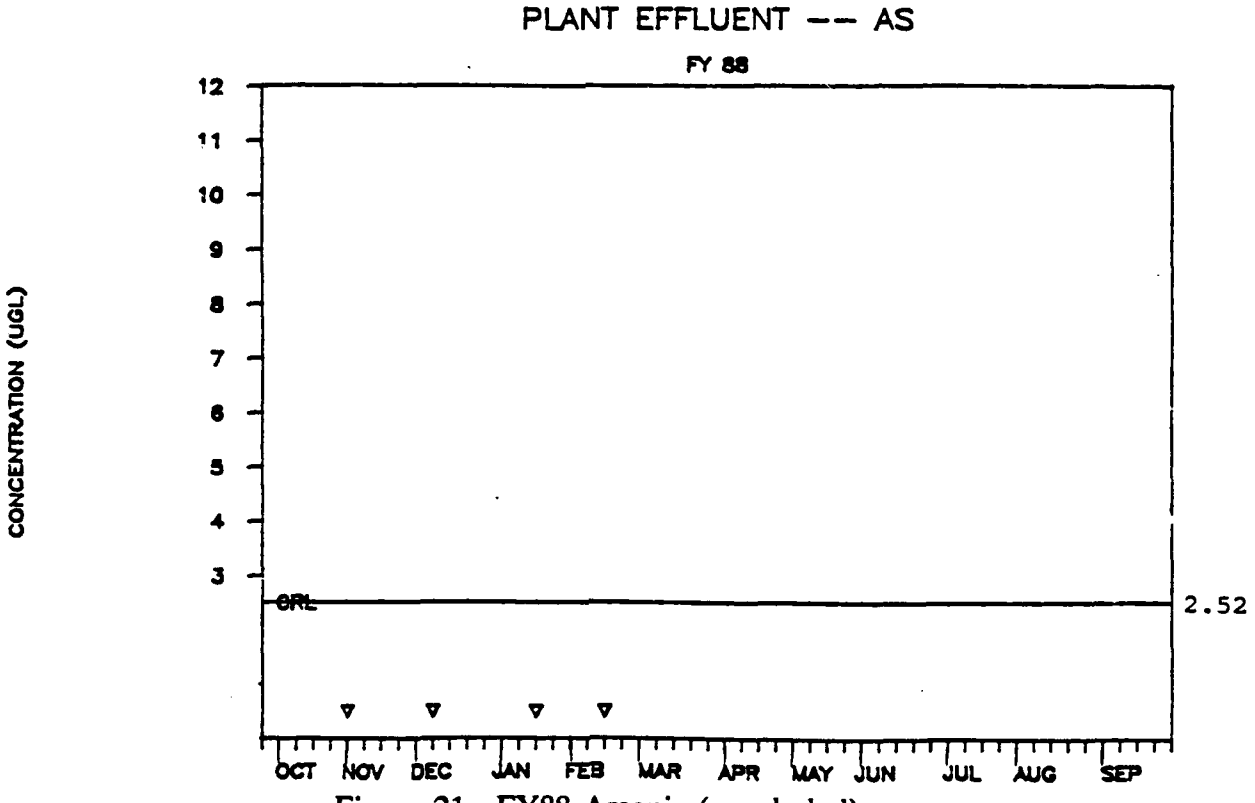
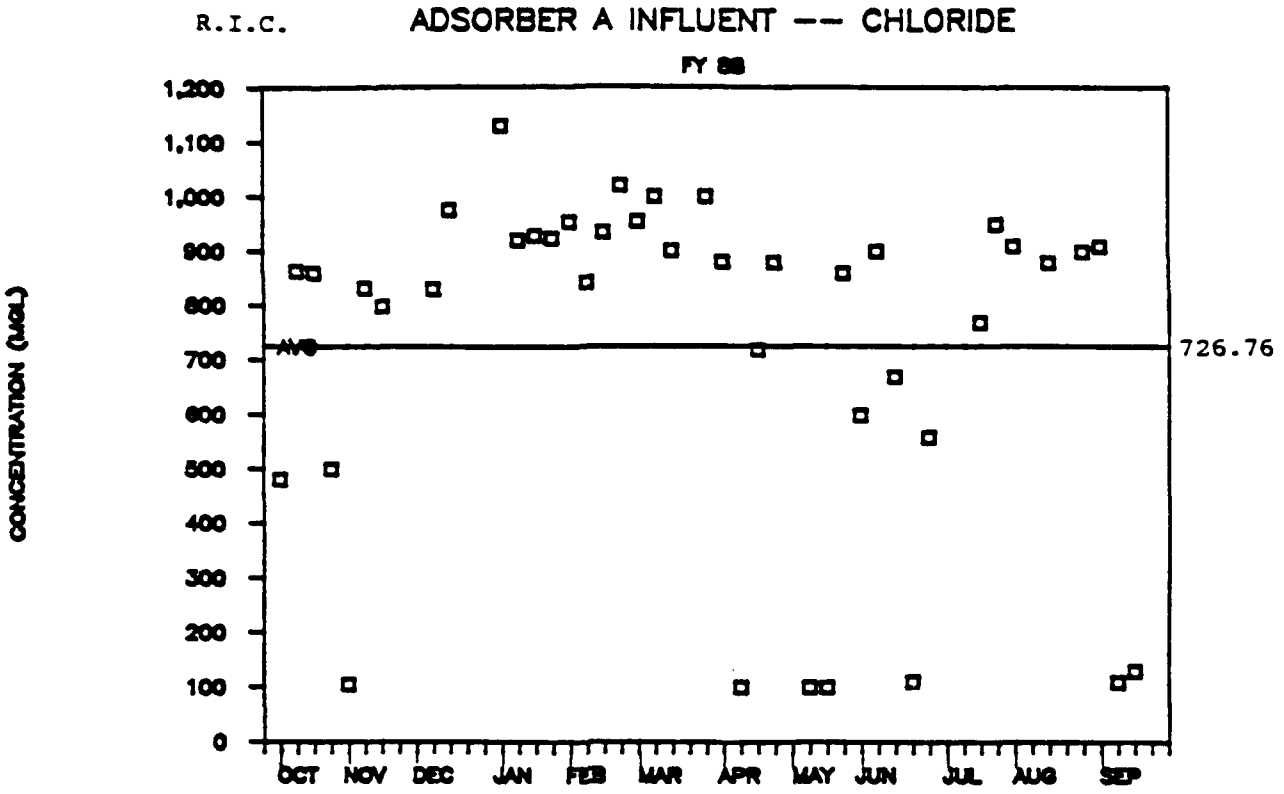


Figure 21. FY88 Arsenic (concluded).



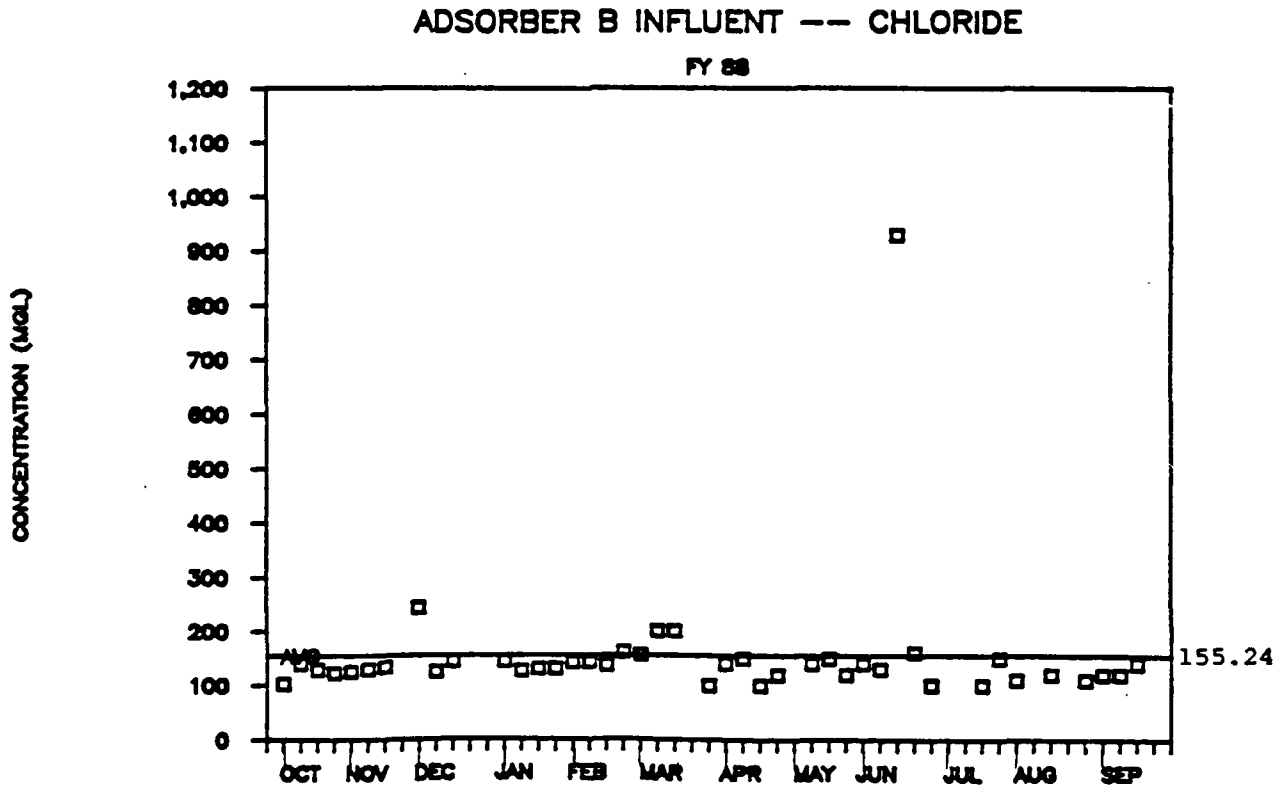
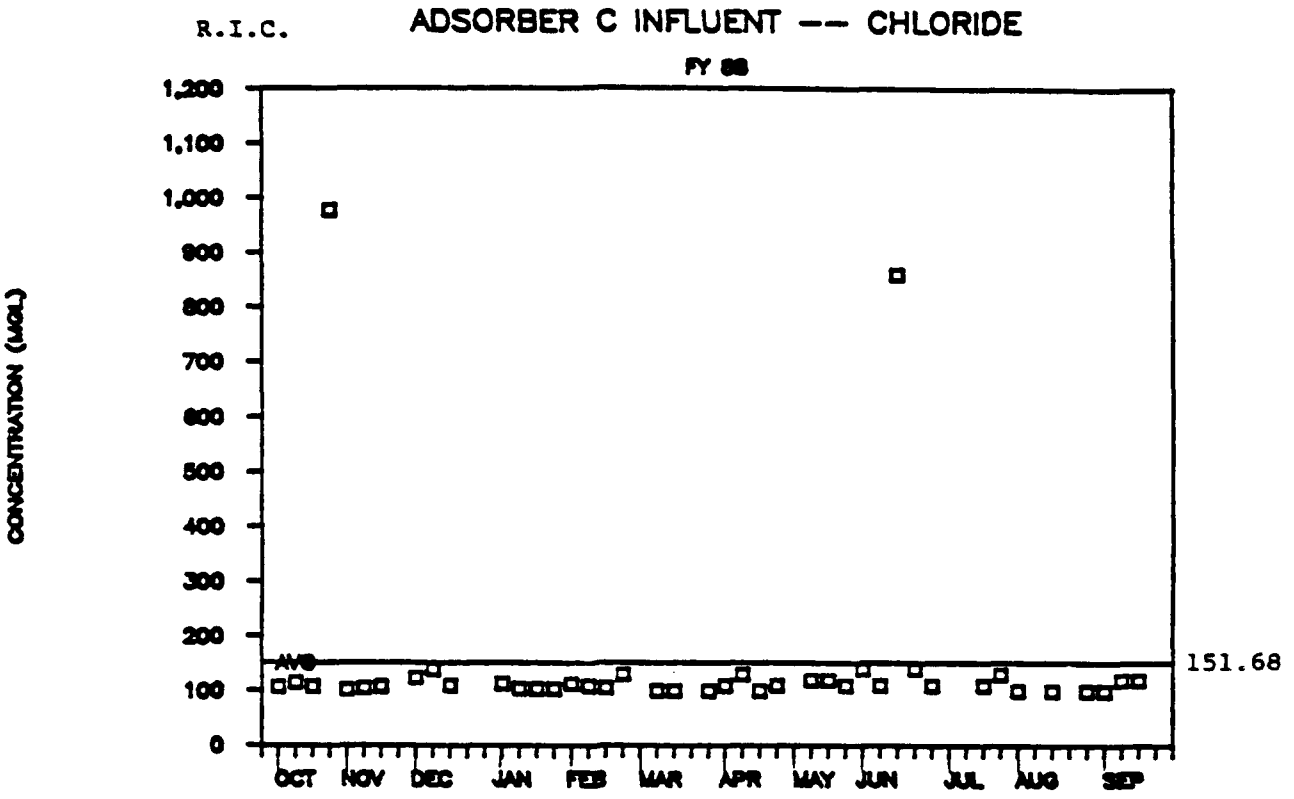


Figure 22. FY88 Chloride (continued).



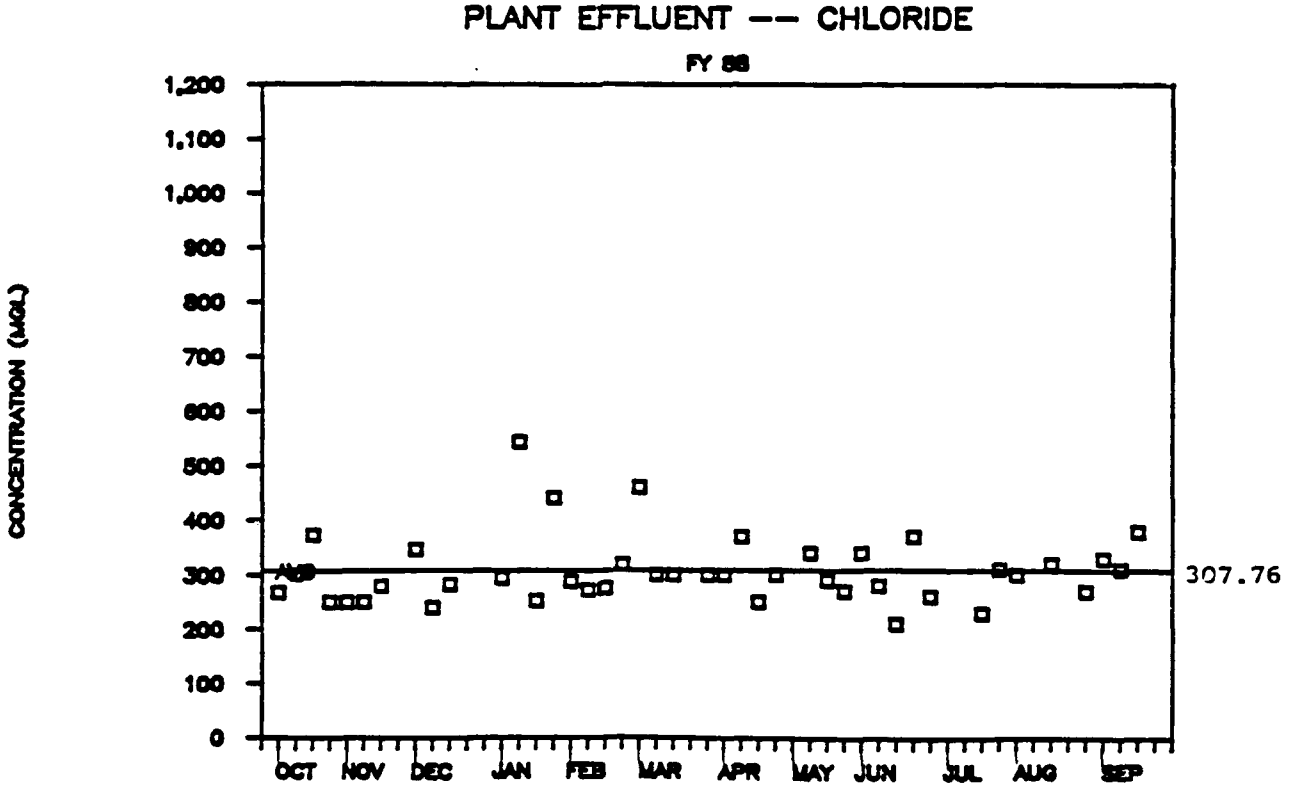
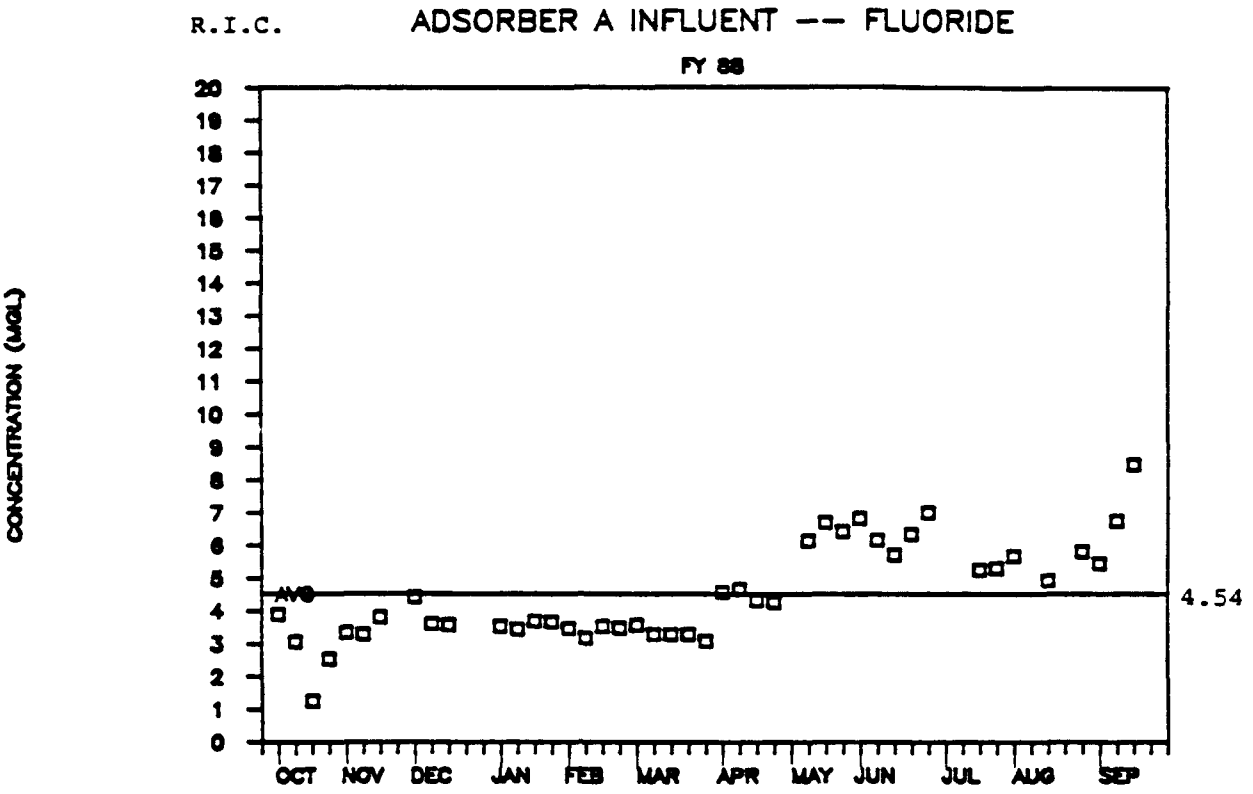


Figure 22. FY88 Chloride (concluded).



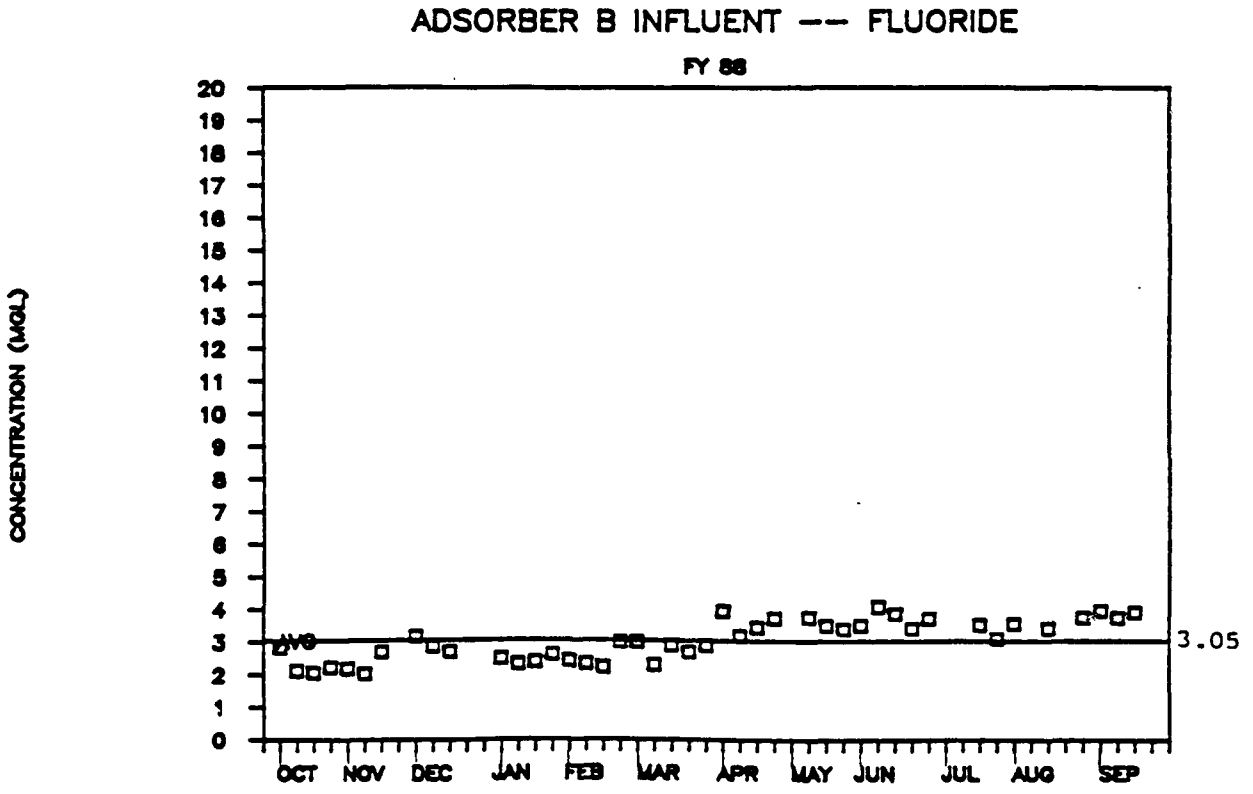
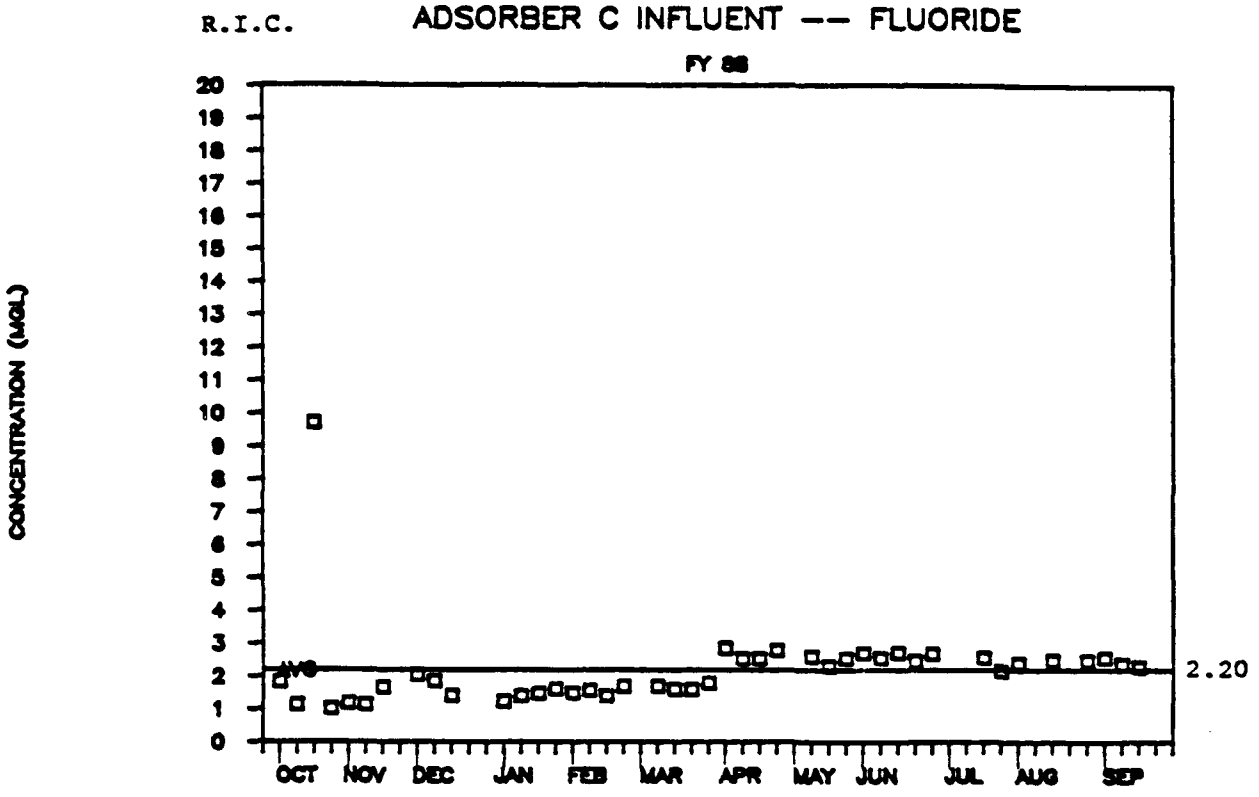


Figure 23. FY88 Fluoride (continued).



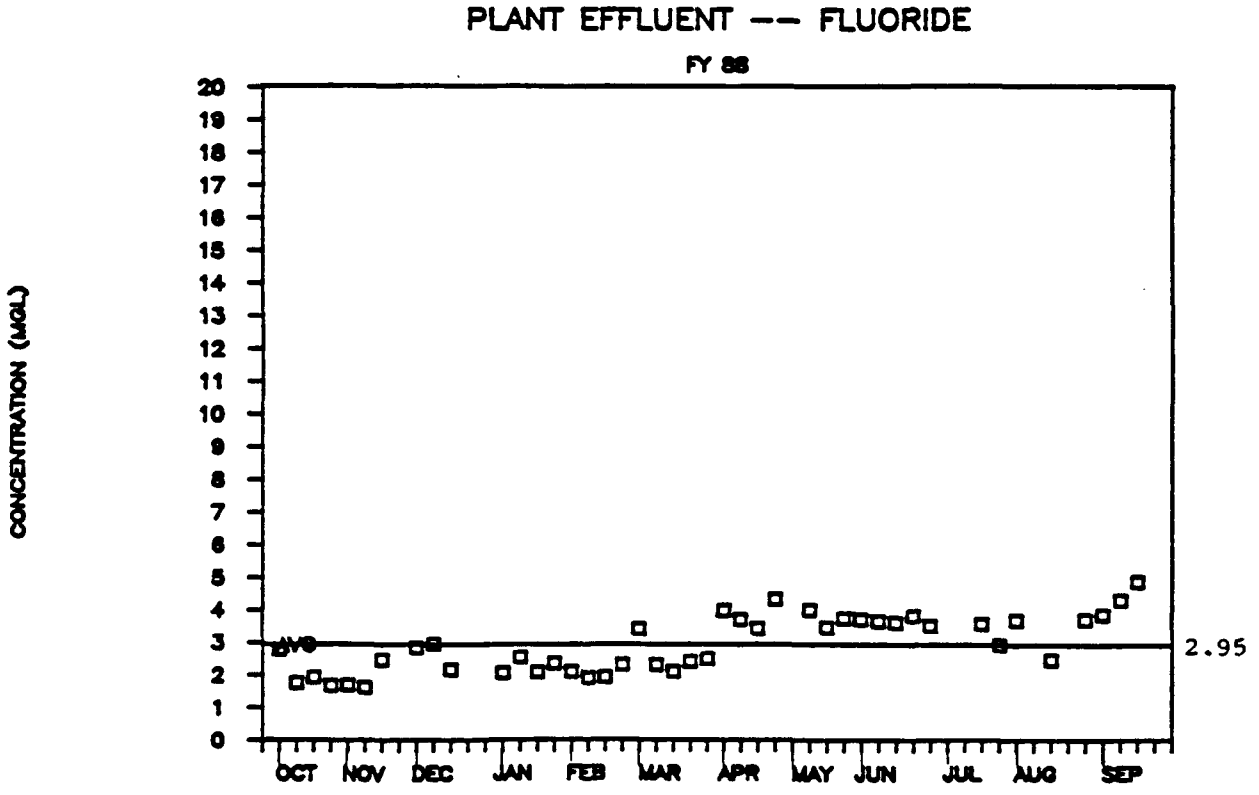
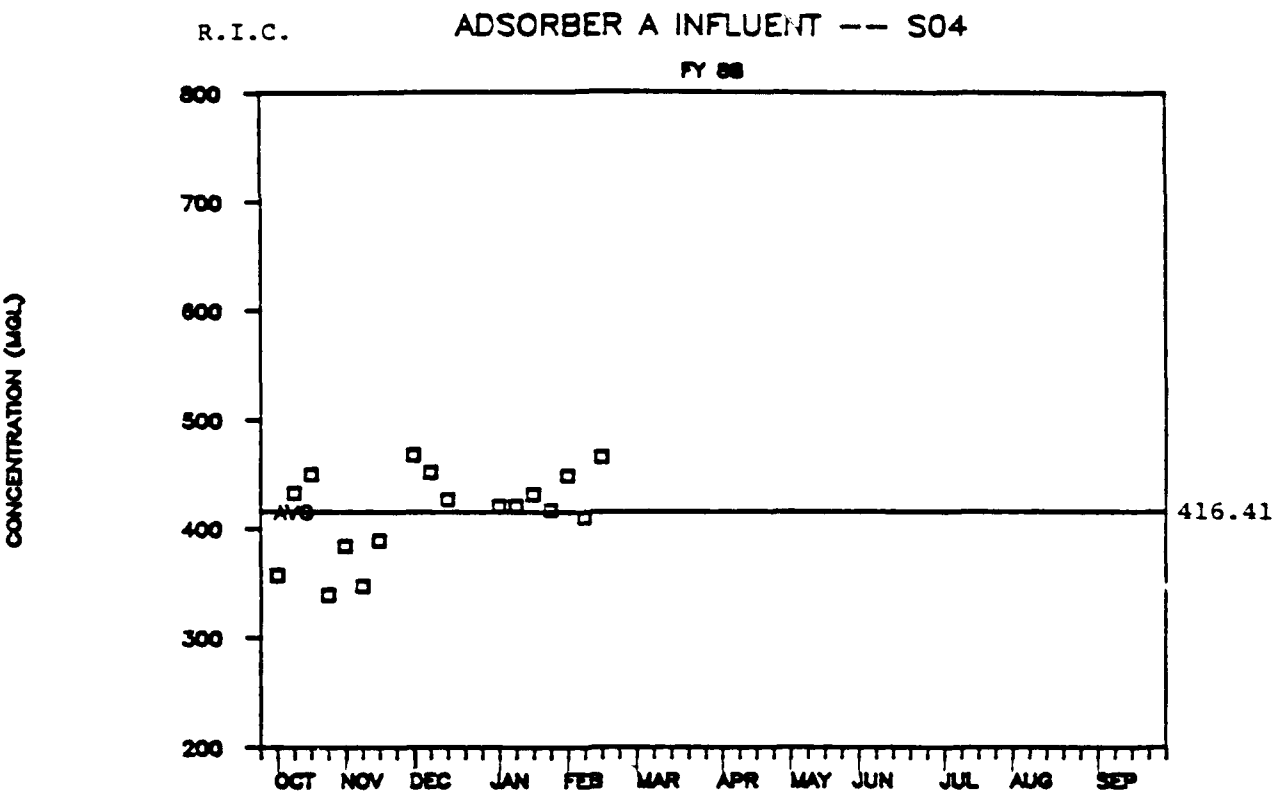


Figure 23. FY88 Fluoride (concluded).



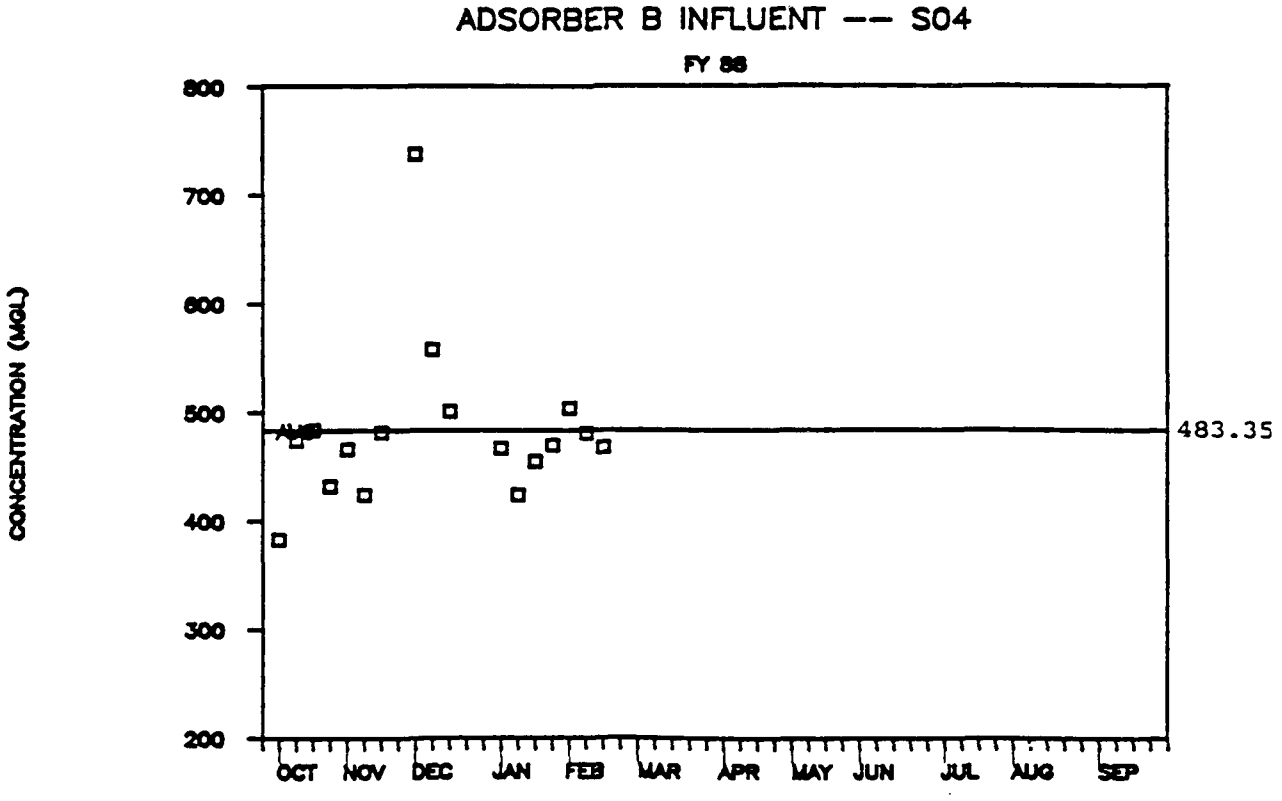
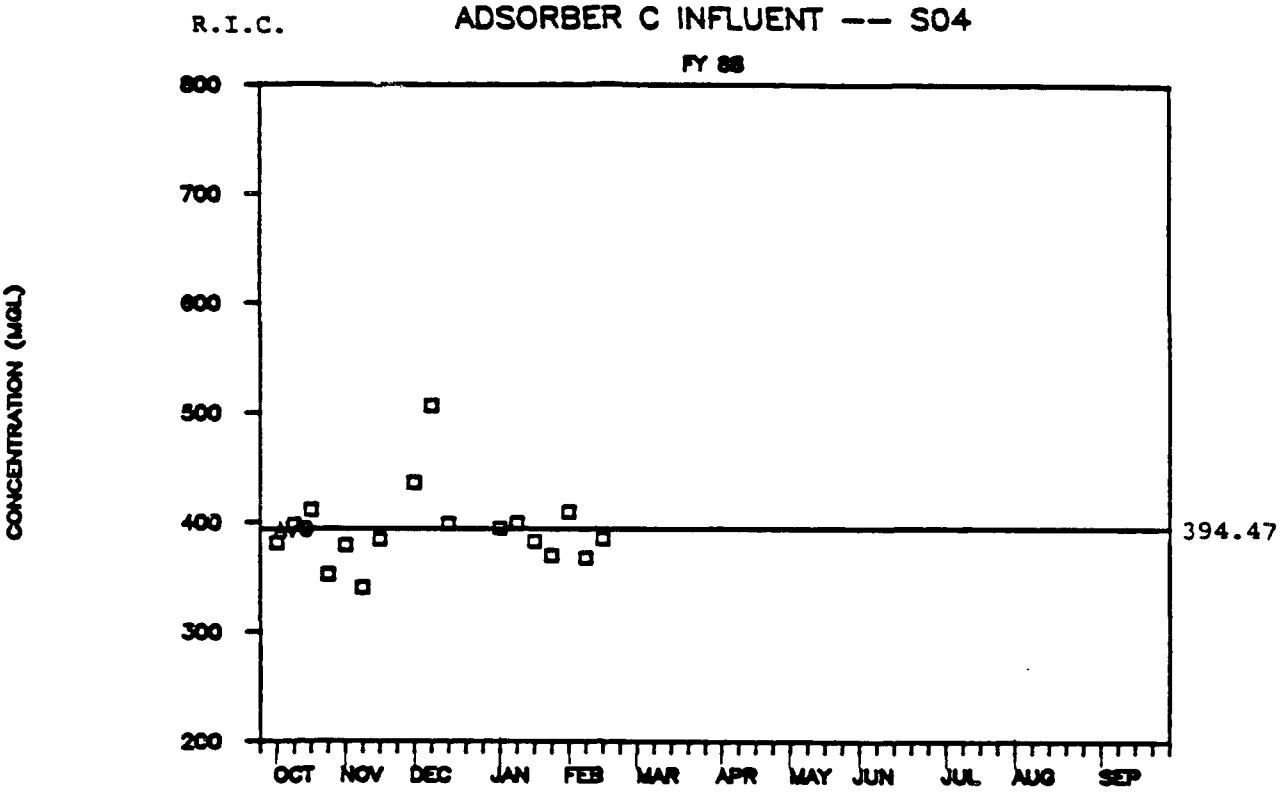


Figure 24. FY88 Sulfate (continued).



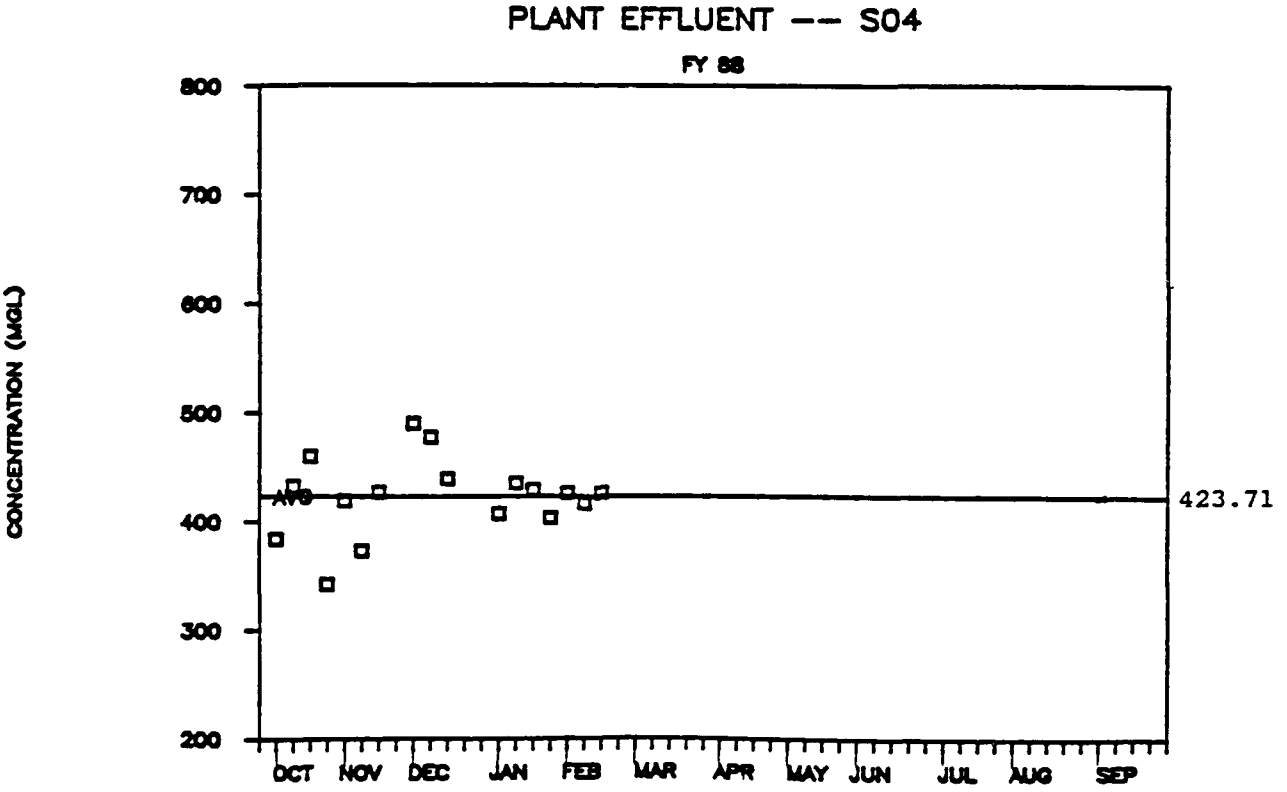
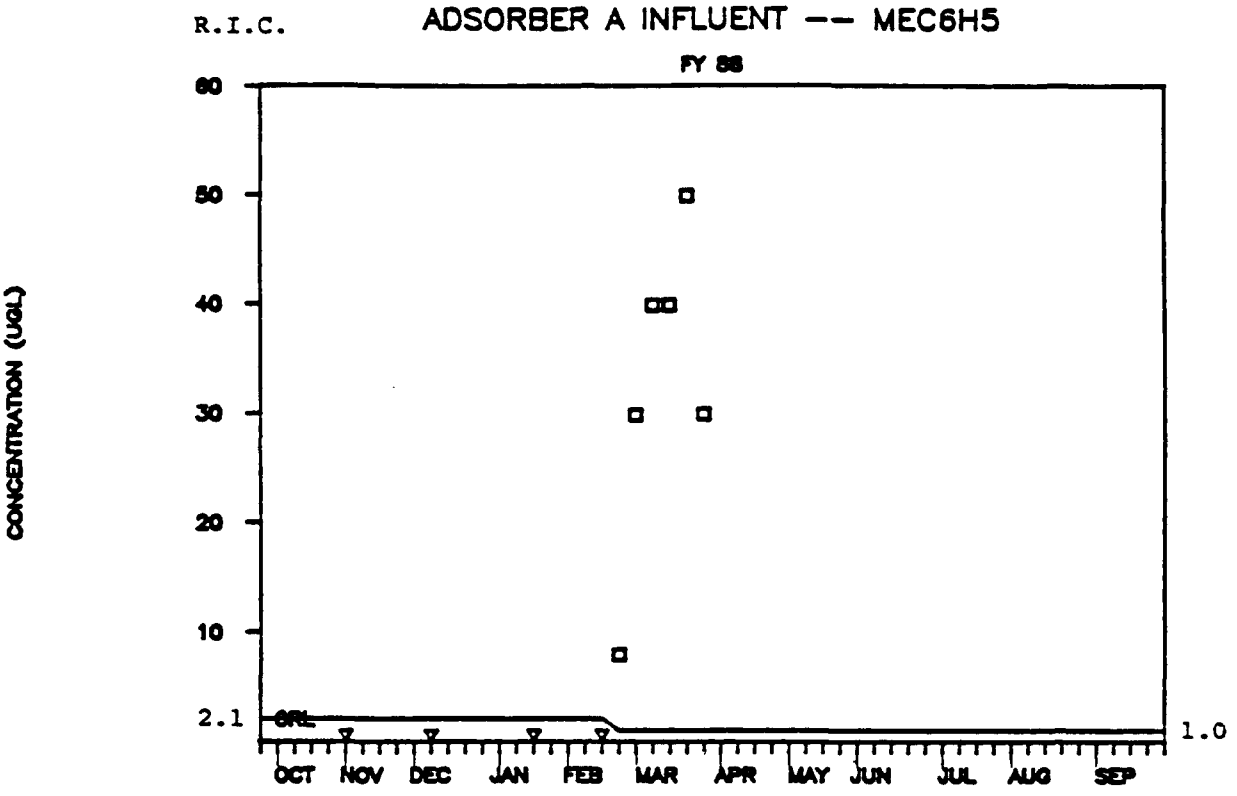


Figure 24. FY88 Sulfate (concluded).



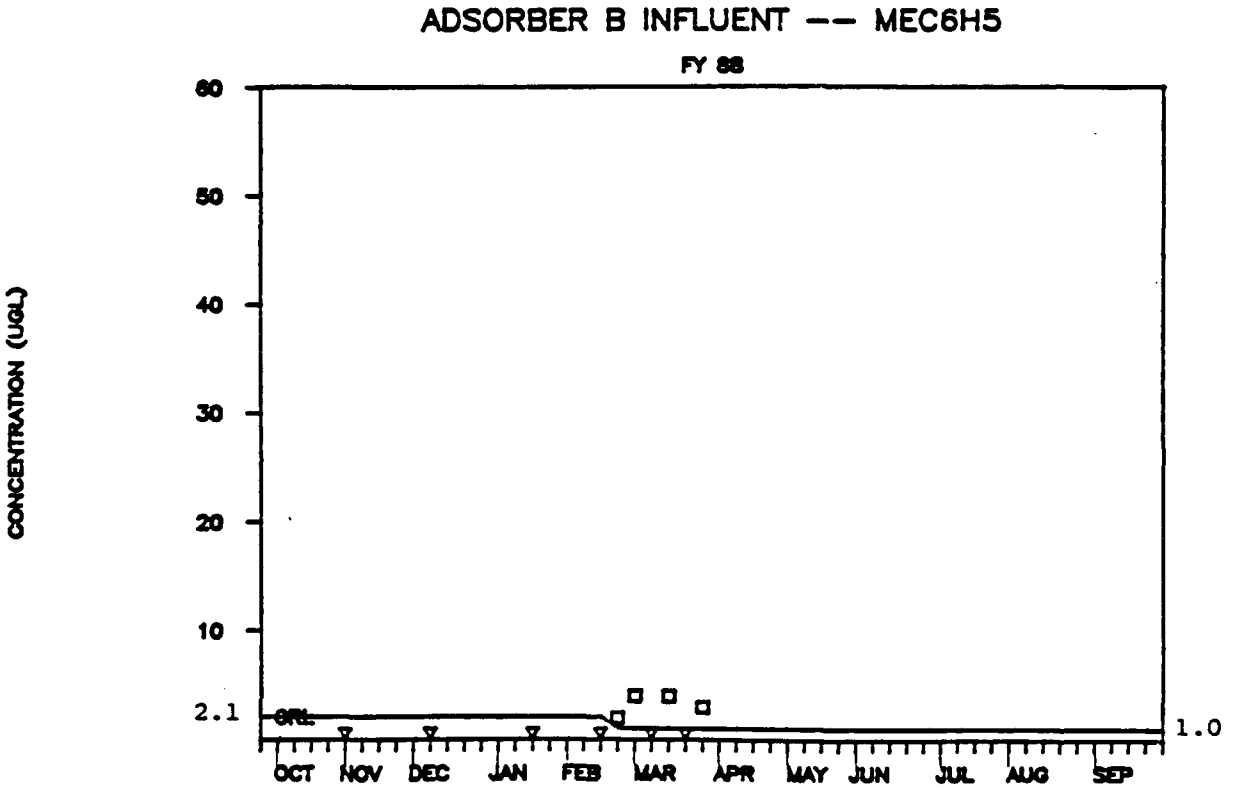
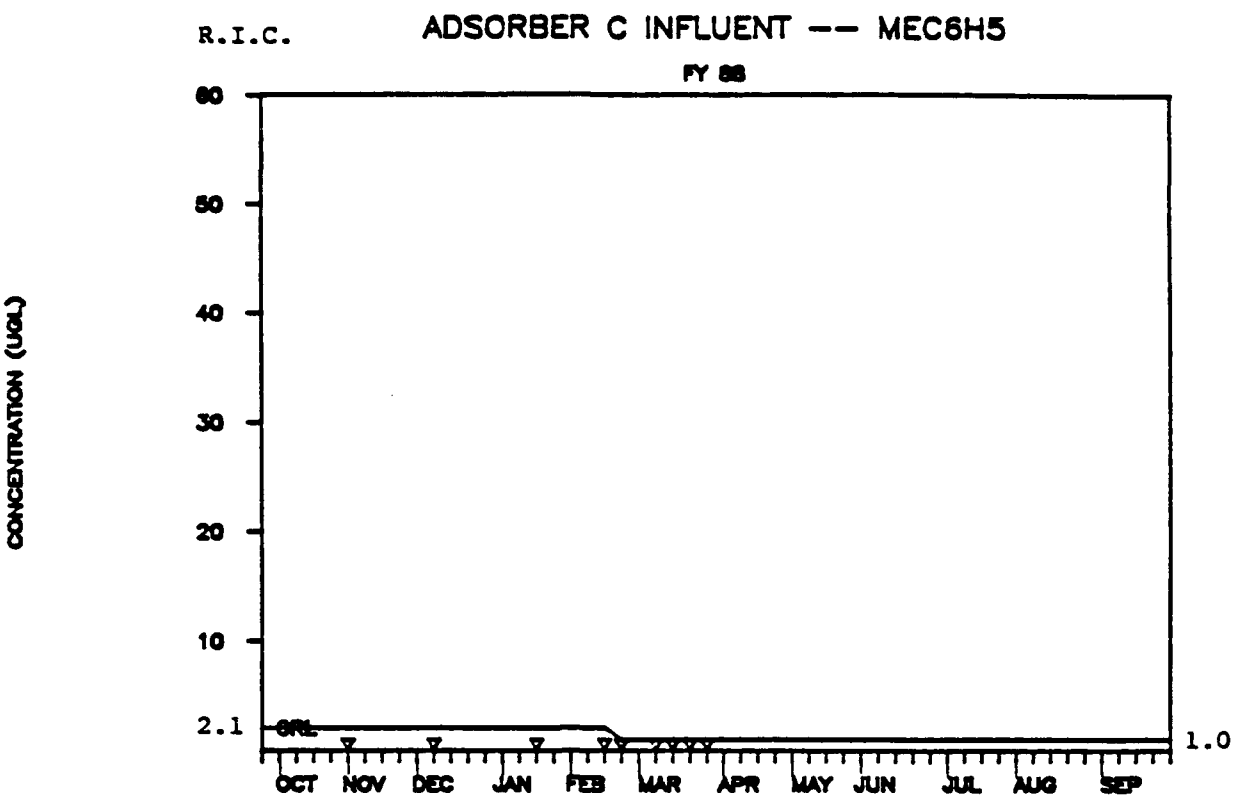


Figure 25. FY88 Toluene (continued).



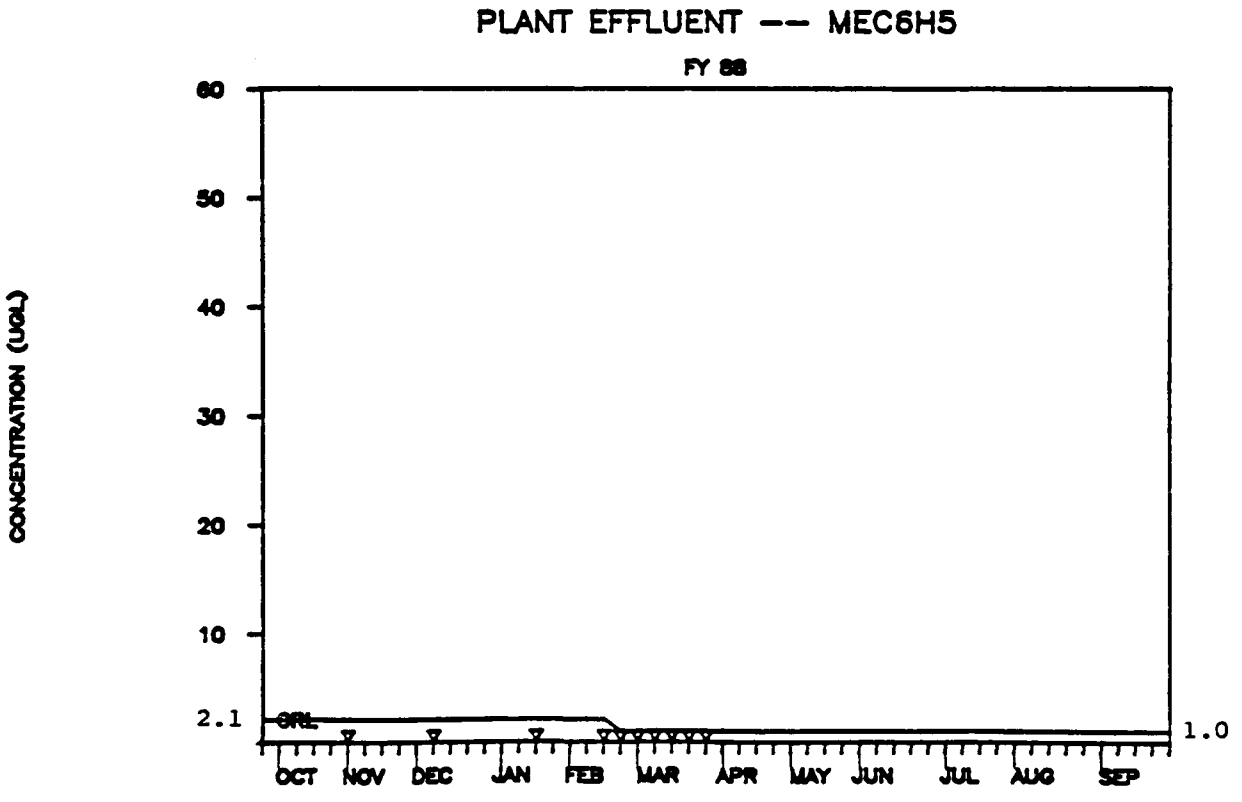
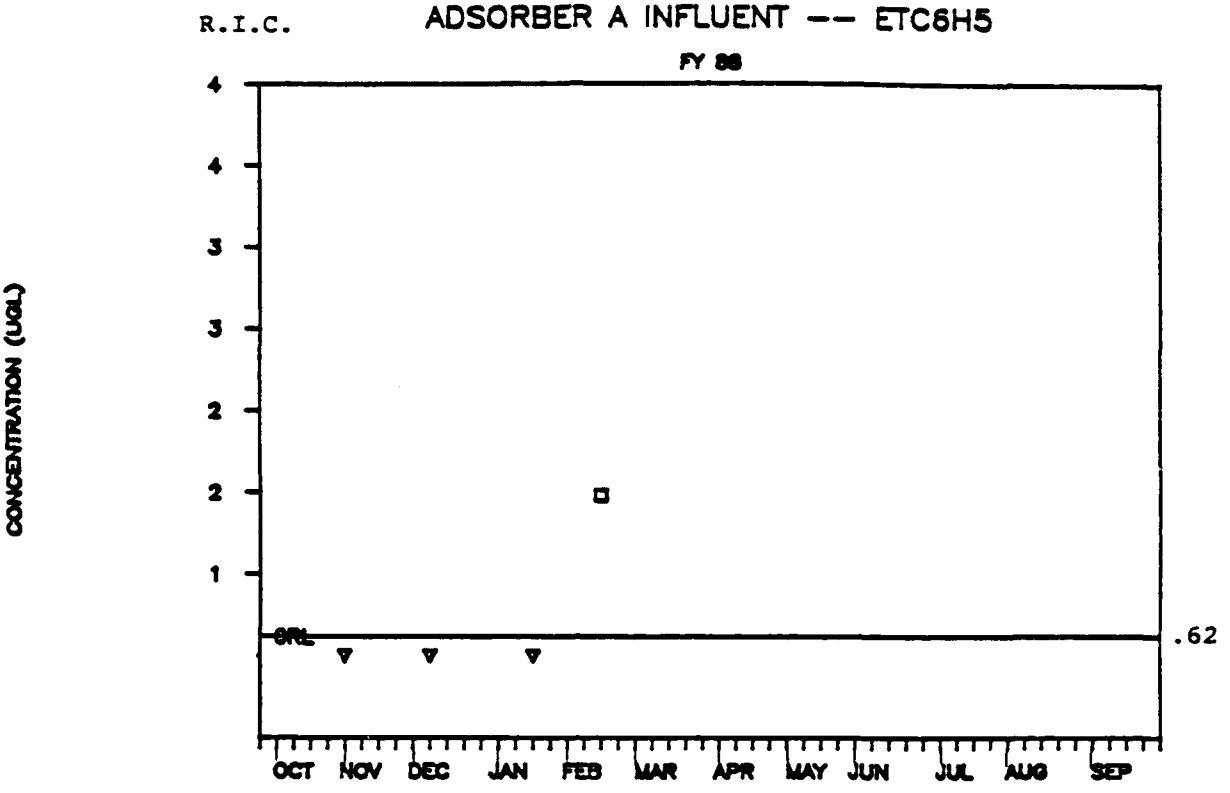


Figure 25. FY88 Toluene (concluded).



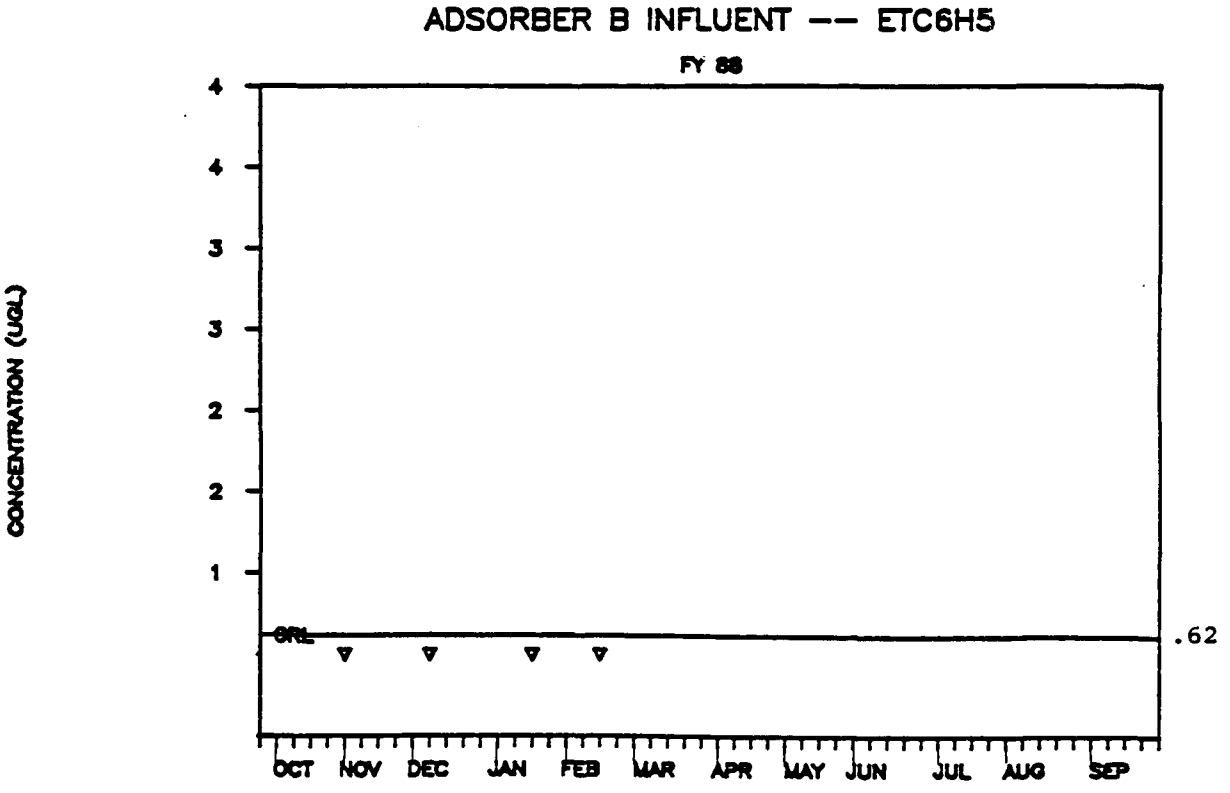
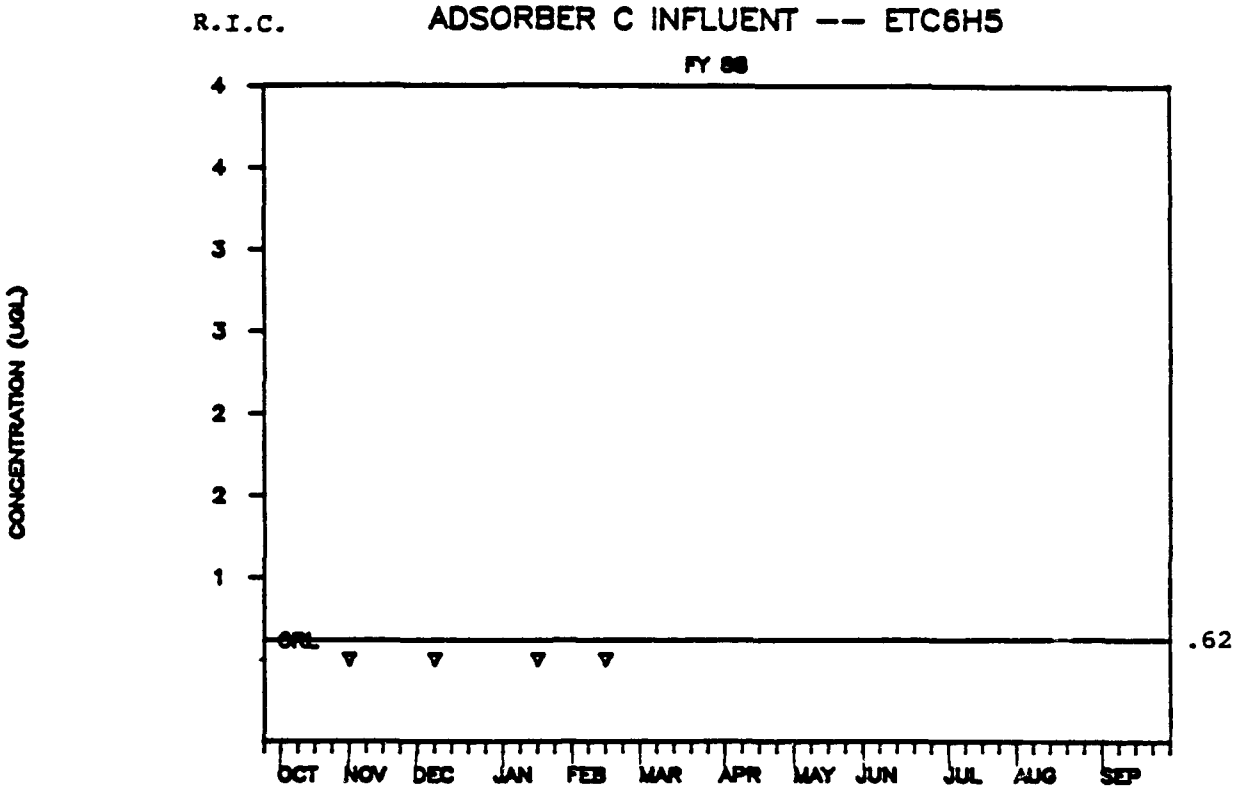


Figure 26. FY88 Ethylbenzene (continued).



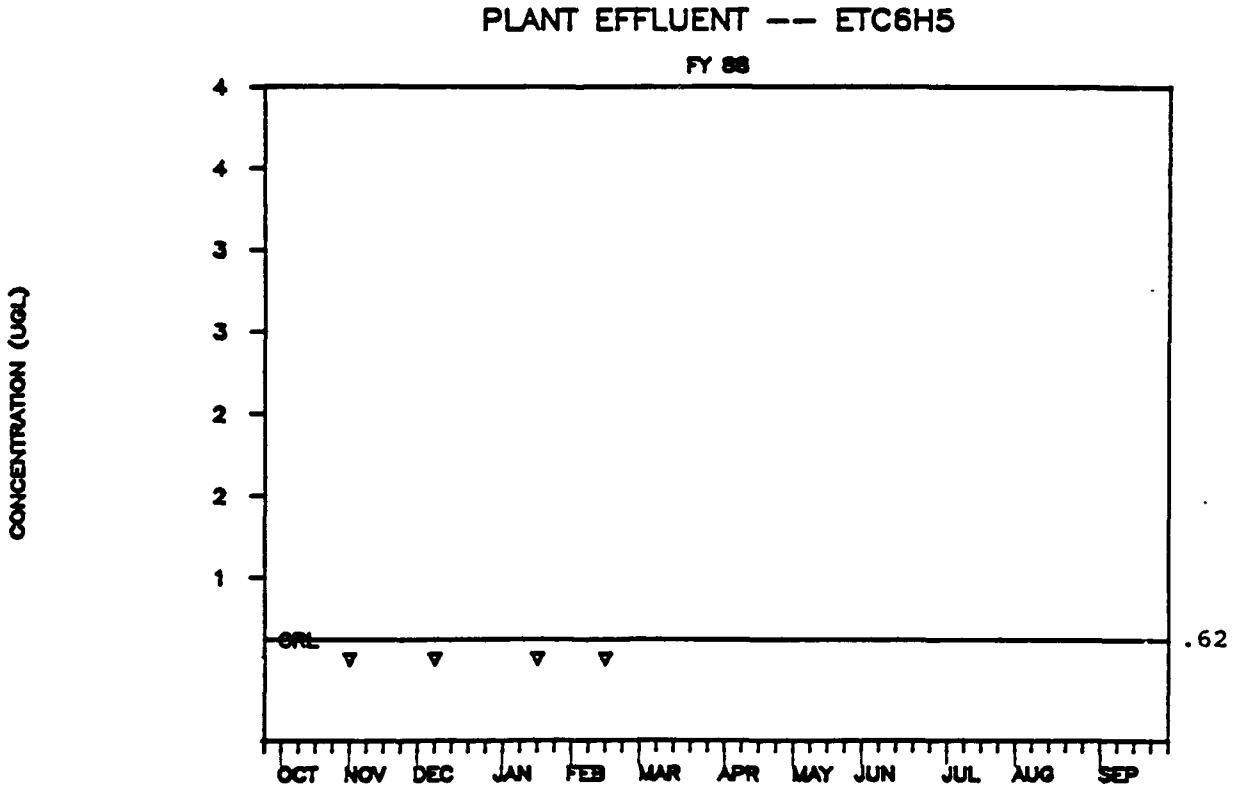


Figure 26. FY88 Ethylbenzene (concluded).

Table 3

Maximum Operating Limits for North Boundary System

Parameter	Maximum Operating Limit (MOL)	Source*
Aldrin	0.2 μg/ℓ	Guidance from OTSG (Army) until standards are developed.
Chloride	N.A.	EPA Secondary Drinking Water Regulation standard is 250 mg/ℓ
Dibromochloropropan (DBCP)	0.2 μg/ℓ	State of Colorado Department of Health limit per letter to Commander, RMA, 26 June 79.
Dicyclopentadiene (DCPD)	24.0 μg/ℓ	The State of Colorado has requested the Army to meet a limit of 24 μg/ℓ for DCPD based on an odor threshold value.
Diisopropylmethyl-phosphonate (DIMP)	500 μg/ℓ	These criteria are recommended by the US Medical Bioengineering Research and Development Lab (26 Aug 76) and are based on toxicology studies (26 Aug 76) conducted by the Army. The National Academy of Sciences Committee on Military Environ-mental Research has reviewed the proce-dures and results of toxicology studies and concurred in the drinking water levels (1 Feb 77).
Dieldrin	0.2 μg/ℓ	Guidance from OTSG (Army) until standards are developed.
Endrin	0.2 μg/ℓ	EPA National Primary Drinking Water Regulation.
Fluoride	N.A.	EPA final Rule on Fluoride, National Primary and Secondary Drinking Water Standards, 40 CFR Parts 141, 142, and 143, maximum concentration limit is 4.0 mg/ℓ.
Combined Organo-Sulfurs	100 μg/ℓ	Guidance from OTSG (Army) until standards are developed.

N.A. = Not Applicable

* Source: After Rocky Mountain Arsenal Contamination Control Program Management Team (1983)

Dieldrin

21. The CRL for dieldrin (Figure 7) in FY88 was 0.05 ppb. The MOL for the NBS treatment plant was 0.2 ppb. The concentrations of dieldrin found in the influent to adsorber A ranged from less than the CRL to 3.76 ppb. The average concentration for FY88 was 2.21 ppb. The highest concentration found in the influent to adsorber B was 1.31 ppb with an average for the year of 0.75 ppb. Samples of the influent to adsorber C collected in FY88 were found to contain dieldrin with a maximum concentration of 0.19 ppb. Only one sample contained concentrations of dieldrin above the CRL in the plant effluent at 0.062 ppb.

Isodrin

22. The CRL for isodrin (Figure 8) in FY88 was 0.05 ppb. The MOL for the NBS treatment plant was 0.2 ppb. The concentration of isodrin in the influent to adsorber A collected in FY89 ranged from less than the CRL to a high of 1.0 ppb. A single sample of the influent to adsorber C was found to contain isodrin above the CRL at 0.62 ppb. The influent to adsorbers B and the plant effluent contained no isodrin above the CRL during FY88.

Hexachlorocyclopentadiene

23. The CRL for hexachlorocyclopentadiene (Figure 9) in FY88 was 0.083 ppb. No MOL was established. Three samples out of a total of seventeen analyzed for hexachlorocyclopentadiene in FY88 from the influent to adsorber A were found to contain concentrations in excess of the CRL. The highest concentration was 0.725 ppb. No concentrations above the CRL were found in the influent adsorbers B and C or in the plant effluent.

P,P'-DDT

24. The CRL for DDT (Figure 10) in FY87 was 0.059 ppb. The MOL for the NBS treatment plant was not established. Ten samples of the influent to adsorber A collected in FY88 was found to contain DDT above the CRL at a high of 0.418 ppb. No concentrations above the CRL were found in the influent to adsorbers B and C or in the plant effluent.

Chloroform

25. The CRL for chloroform in FY88 (Figure 11) was 1.88 ppb. No MOL was established. The concentrations of chloroform found in the influent to adsorber

A ranged from the 4.33 ppb to a high of 20.0 ppb with an average for the year of 13.08 ppb. The higher concentrations were found during the 2nd quarter of FY88. The concentrations found in the influent to adsorber B ranged from less than the CRL to 30.0 ppb with an average for the year of 26.08 ppb. With respect to adsorber C, the concentrations ranged from less than the CRL to 30.0 ppb. Concentrations of chloroform in excess of the CRL were found in six samples of the plant effluent during the year with the majority of these concentrations found during the 2nd quarter. The maximum concentration found was 10.0 ppb.

Carbon Tetrachloride

26. The CRL for carbon tetrachloride (Figure 12) in FY88 was 1.62 ppb until the middle of the 2nd quarter when it was decreased to 1.0. No MOL was established. No concentrations in excess of the CRL of carbon tetrachloride were found in the influents to adsorber A and adsorber B. The concentrations found in the influent to adsorber C ranged from below the CRL to a high of 5.07 ppb. No concentrations above the CRL were found in the plant effluent.

Trichloroethylene

27. The CRL for trichloroethylene (Figure 13) in FY88 was 1.3 ppb until the middle of the 2nd quarter when it decreased to 0.56 ppb. No MOL was established. The concentrations of trichloroethylene found in the influent to adsorber A ranged from less than the CRL to a high of 6.62 ppb. The higher concentrations were found during the 2nd, 3rd and 4th quarters of FY88. The average adsorber A influent concentration was 3.73 ppb. The concentrations found in the influent to adsorber B ranged from less than the CRL to a high of 2.09 ppb with the higher concentrations found during the 4th quarter. No concentrations above the CRL were found in the influent to adsorber C or in the plant effluent.

Tetrachloroethylene

28. The CRL for tetrachloroethylene (Figure 14) in FY88 was 2.8 ppb until the middle of the 2nd quarter when it was increased to 1.0 ppb. No MOL was established. The concentrations of tetrachloroethylene found in the influent to adsorber A ranged from less than the CRL to a high of 200 ppb with an average for the year of 69.95 ppb. The concentrations found in the influent to adsorber B ranged from 4.4 ppb to a high of 20.0 ppb with an average for the year of 13.34

ppb. No samples of the influent to adsorber C collected in FY88 were found to contain tetrachloroethylene above the CRL. Also, no concentrations above the CRL were found in the plant effluent.

1,2 Dichloroethylene

29. The CRL for 1,2 dichloroethylene (Figure 15) in FY88 was 2.07 ppb until the middle of the 2nd quarter when it was changed to 1.0 ppb. No MOL was established. The concentrations of 1,2 dichloroethylene found in the influent to adsorber A ranged from less than the CRL to a high of 5.08 ppb. No concentrations above the CRL were found in the influents to adsorber B and C and the effluent.

Combined Organo-Sulfurs

30. The CRL for the combined organo-sulfurs in (Figure 16) FY88 was 5.3 ppb until the middle of the 2nd quarter when it was raised to 60.0 ppb and then it dropped to 24.65 ppb in the beginning of the 3rd quarter. The MOL for the NBS treatment plant was 100 ppb. The total concentrations of the combined organo-sulfurs found in the influent to adsorbers A ranged from less than the CRL to 106 ppb with an average of 73.53 ppb. Influent samples from adsorber B were found to contain concentrations below the CRL to a high of 77.5 with an average of 36.23 ppb. Only two samples of the influent to adsorber C were found to contain concentrations at or slightly above the CRL of 5.3 ppb. No concentrations above the CRL were found in the plant effluent.

Dithiane

31. The CRL for dithiane (Figure 17) in FY88 was 3.34 ppb until the middle of the 2nd quarter when it was increased to 20.0 ppb, then lowered to 1.34 at the beginning of the 3rd quarter. No MOL was established. Samples of the influent to adsorber A were found to contain dithiane from below the CRL to a high of 33.0 ppb with an average of 24.2 ppb. Two samples of influent to adsorber B had concentrations above the CRL with a high of 27.1 ppb. The influent to adsorber C and the plant effluent contained no concentration of dithiane above the CRL.

DCPD

32. The CRL for DCPD (Figure 18) was 9.31 ppb until the beginning of the 3rd quarter when it was lowered to 5.0 ppb. The MOL for the NBS treatment plant

was 24 ppb. The concentrations of DCPD found in the influent to adsorber A ranged from less than the CRL to 1000 ppb with an average for the year of 392.57 ppb. The concentrations found in the influent to adsorber B ranged from below the CRL to 36.5 ppb with an average for the year of 15.35 ppb. Three samples of the influent to adsorber C were found to contain concentrations of DCPD slightly above the CRL. Samples of plant effluent all contained concentrations of DCPD less than the CRL.

DIMP

33. The CRL for DIMP (Figure 19) in FY88 ranged from 10.1 to 0.65 ppb. The MOL for the NBS treatment plant was 500 ppb. The concentrations of DIMP found in the influent to adsorber A ranged from 83.6 ppb to 1700 ppb with an average for the year of 973.89 ppb. The concentrations found in the influent to adsorber B ranged from 67.7 ppb to 1000 ppb with an average for the year of 138.57 ppb. Eighteen samples of the influent to adsorber C and seventeen samples of the plant effluent were found to contain concentrations of DIMP above the CRL but less than the MOL. All of these were in the 3rd and 4th quarters of FY88, and, the concentrations were less than 50 ppb for the influent to adsorber C and less than 10 ppb for the effluent.

DBCP

34. The CRL for DBCP (Figure 20) in FY88 was 0.13 ppb until the middle of the 2nd quarter when it was increased to 0.195 ppb. The MOL for the NBS treatment plant was 0.2 ppb. The concentrations of DBCP found in the influent to adsorber A ranged from below the CRL to 1.09 ppb with an average for the year of 0.79 ppb. Concentrations in the influent to adsorber B were found to range from below the CRL to 0.95 ppb with an average for the year of 0.69 ppb. The concentrations found in the influent to adsorber C ranged from below the CRL (0.13 ppb) to the CRL (0.195) ppb. One sample of effluent had a concentration of DBCP above the CRL at 0.289 ppb which was slightly above the MOL (0.2 ppb).

Arsenic

35. The CRL for arsenic (Figure 21) in FY88 was 2.52 ppb. No MOL was established. Three samples out of a total of four analyzed for arsenic in FY88 from the influent to adsorber A was found to contain concentrations in excess of the

CRL. The highest value was 5.85 ppb with an average value of 3.53 ppb. No concentrations above the CRL were found in the influent to adsorbers B and C, and the plant effluent.

Chloride

36. The CRL for chloride (Figure 22) was not reported. The concentrations of chloride found in the influent to adsorber A ranged from 100 ppm to 1130 ppm with an average for the year of 726 ppm. The concentrations found in the influent to adsorber B ranged from 100 ppm to 930 ppm with an average for the year of 155 ppm. For adsorber C, the concentrations found in the influent ranged from 100 ppm to 979 ppm with an average for the year of 151 ppm. The concentrations of chloride found in the plant effluent ranged from approximately 210 ppm to 545 ppm with an average for the year of 307 pm. Chloride is not removed from the ground water by the activated carbon treatment system.

Fluoride

37. The CRL for fluoride (Figure 23) was not reported. The concentrations of fluoride found in the influent to adsorber A ranged from 1.26 pm to 8.52 ppm with an average for the year of 4.54 ppm. The concentrations found in the influent to adsorber B ranged from 2.02 ppm to 4.1 ppm with an average for the year of 3.05 ppm. The concentrations found in the influent to adsorber C ranged from 1.01 to 9.72 ppm with an average for the year of 2.2 ppm. The concentrations found in the plant effluent ranged from 1.6 ppm to 4.89 ppm with an average for the year of 2.93 ppm. Fluoride is not removed from the ground water by the activated carbon treatment system.

Sulfate

38. The CRL for sulfate (Figure 24) was not reported. No MOL was established. The concentrations of sulfate found in the influents to the three adsorbers and in the plant effluent generally ranged from 341 ppm to 738 ppm. The average concentrations for adsorbers A, B, and C and the plant effluent were 416 ppm, 483 ppm, 394 ppm, and 423 ppm, respectively. Sulfate is not removed from the ground water by the activated carbon treatment system.

Toluene

39. The CRL for toluene (Figure 25) was 2.1 ppb until the middle of the 2nd quarter when it was increased to 1.0 ppb. No MOL was established. The concentrations of toluene found in samples of the influent to adsorbers A and B ranged from below the CRL to 50.0 ppb and 4.0 ppb, respectively. No concentrations above the CRL were found in the influent to adsorber C or in the plant effluent.

Ethylbenzene

40. The CRL for ethylbenzene (Figure 26) was 0.62 ppb. No MOL was established. One sample out of a total of four analyzed for ethylbenzene in FY88 from the influent to adsorber A was found to contain a concentration in excess of the CRL at 1.49 ppb. No concentrations above the CRL were found in the influent to adsorbers B and C or in the plant effluent.

Carbon Usage

41. A summary of the data on carbon usage in the NBS treatment plant for FY88 is presented in Table 4. Approximately 186,000 pounds of activated carbon were used in FY88 with 70 percent of the total usage in adsorber A. Carbon usage rates for FY88 in adsorber A were slightly less than FY87, 166 percent, higher than FY87 for adsorber B, and approximately 15 percent of the FY87 usage rate for adsorber C. The total carbon usage rate increased from 1.35 lb/1000 gals in FY87 to 1.50 lbs/1000 gals in FY88.

Table 4

FY87 Carbon Usage in the NB Treatment Plant

Adsorber	Year (lbs)	Annual Usage Rate (lbs/1,000 gal)
A	129,602	4.66
B	54,927	1.32
C	1,560	0.03
TOTAL	186,089	1.50

Contaminant Concentrations in Dewatering Wells

42. In order to provide a picture of the distribution of contaminants in the area of the control system, contaminant concentrations found associated with each alluvial dewatering well were graphed with respect to the well number along the dewatering well line. Thus, each graph provides a visual representation of a particular contaminants distribution along the length of the system. Based on the availability of data, graphs were developed only for aldrin, chloride, combined organo-sulfur compounds, DBCP, DCPD, DIMP, dieldrin, endrin, and fluoride for FY88. These graphs are presented in Figures 27-35. The well numbers are plotted in physical order from west to east. Each graph presents the data collected for each well during the year. The vertical lines associated with each well number represent the range of concentrations found (maximum and minimum) with the mean values for each well connected by a dotted line. A mean value was only computed for sets of data where 70 percent or more of the readings were above the CRL. When this criterion was met, values falling below the CRL were made equal to the CRL and included in the computations. A single triangle indicates that all values were below the CRL. A statistical summary of all the data used to develop the graphs is presented in Appendix C. It should be noted that the maximum number of samples collected from each well was two with only one sample collected in many cases.

Aldrin

43. During FY86, the highest concentrations of aldrin above the CRL (Figure 27) were found along the western half of the control system with a maximum concentration of 11.0 ppb found associated with Well No. 4. The majority of the concentrations found above the CRL were found associated with wells in the area of the original North Boundary System. No concentration of aldrin above the CRL were found associated with the wells along the eastern half of the system.

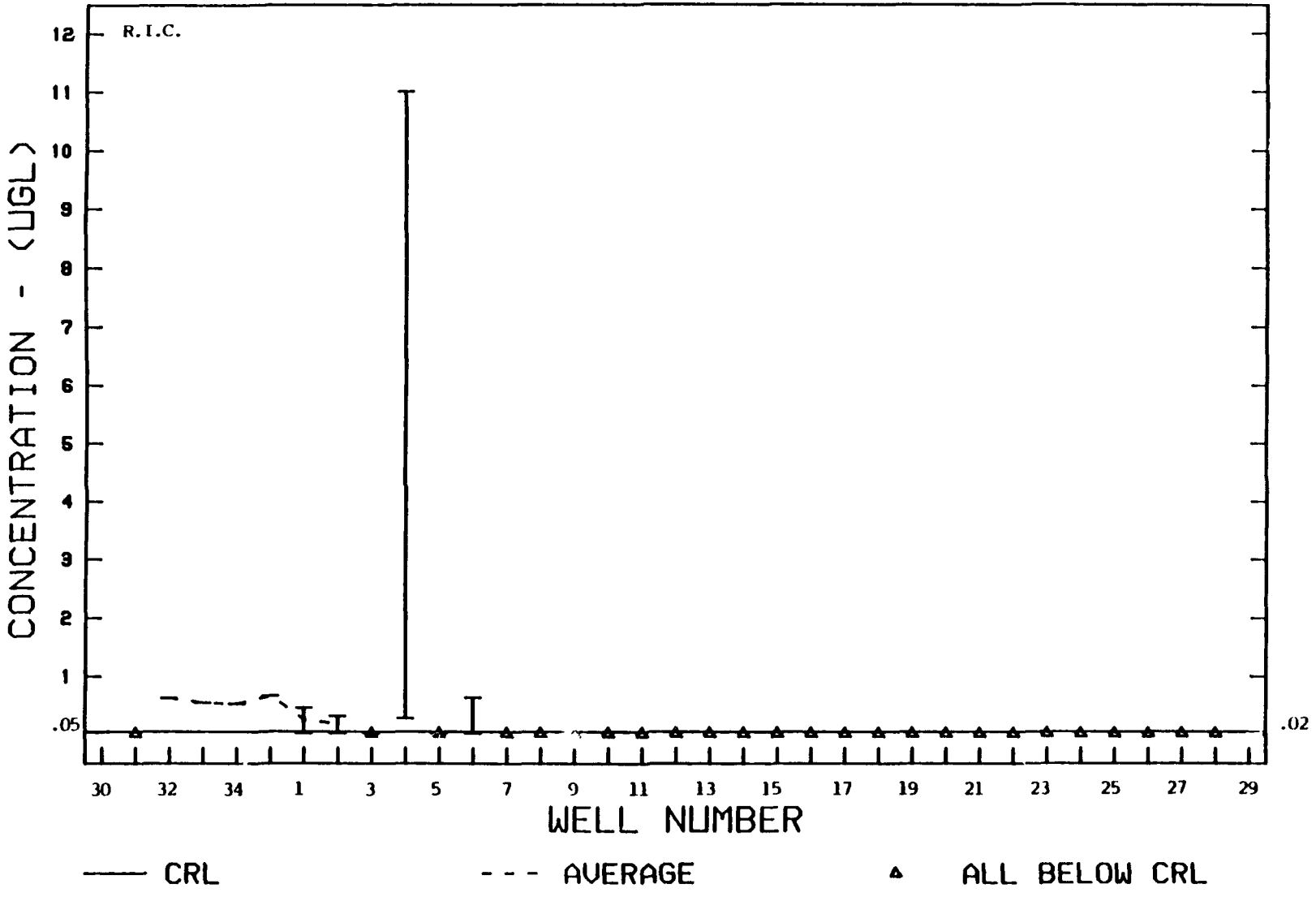


Figure 27. Aldrin concentrations in NBS dewatering wells, FY88.

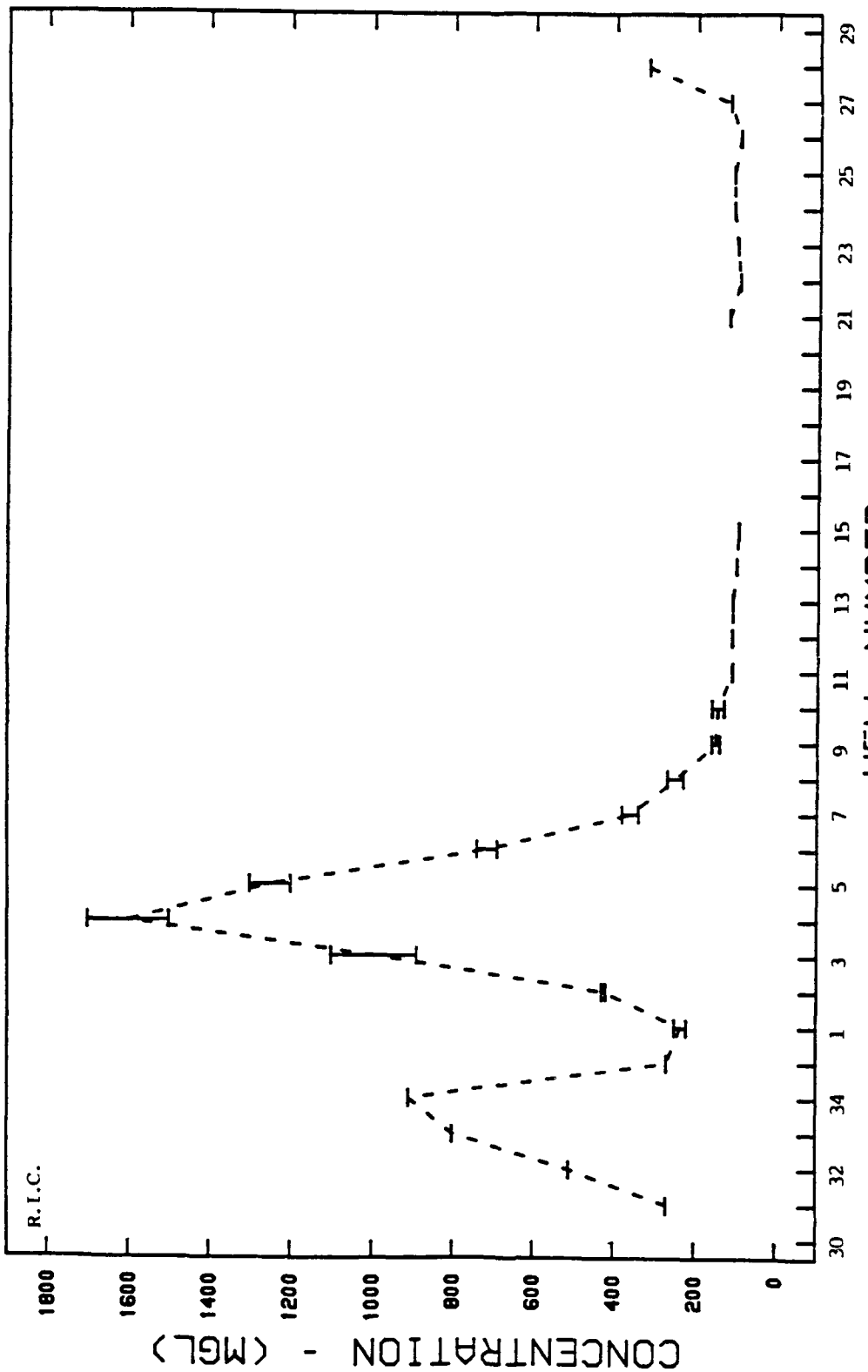


Figure 28. Chloride concentrations in NBS dewatering wells, FY88.

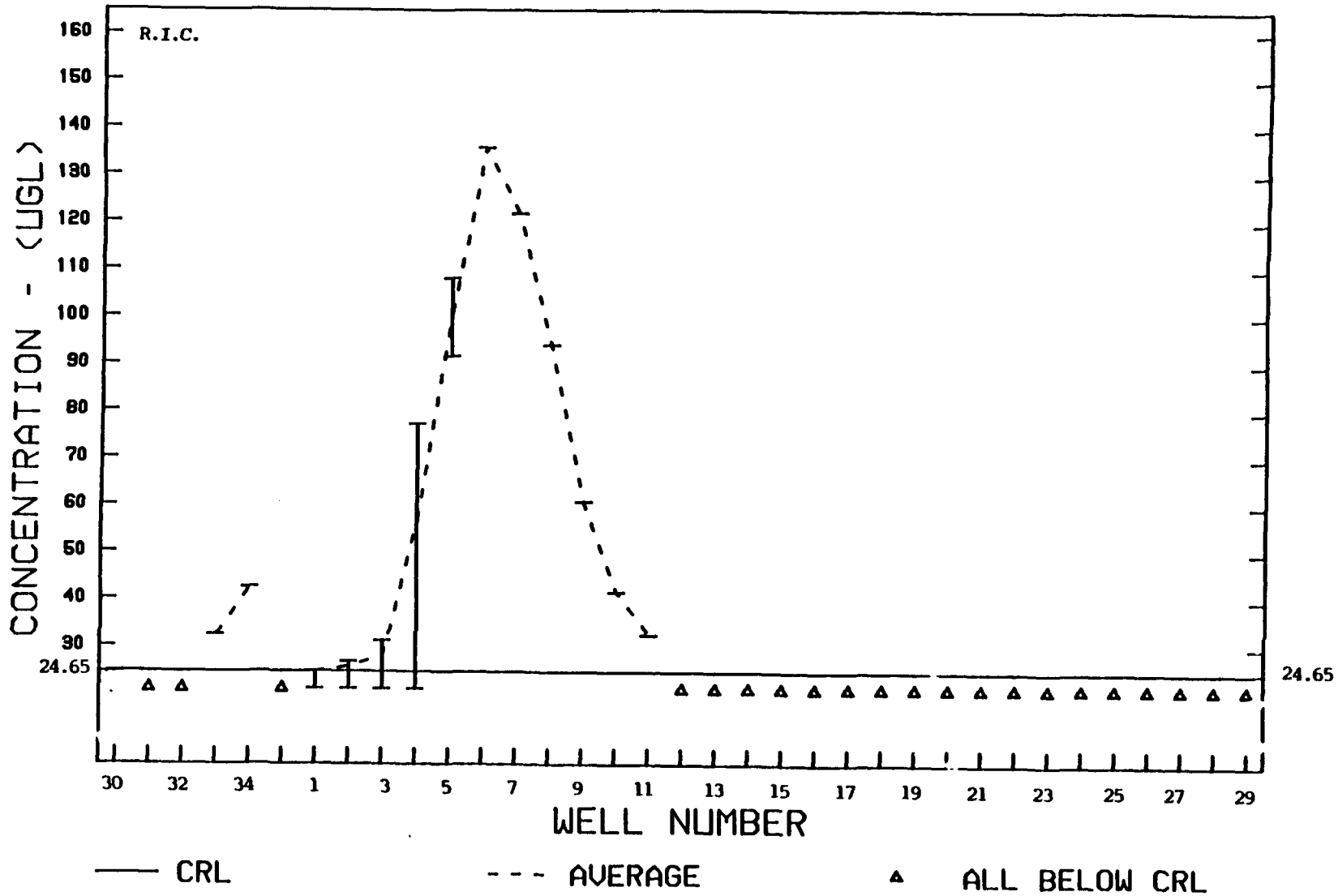


Figure 29. Combined Organo-Sulfur concentrations in NBS dewatering wells, FY88.

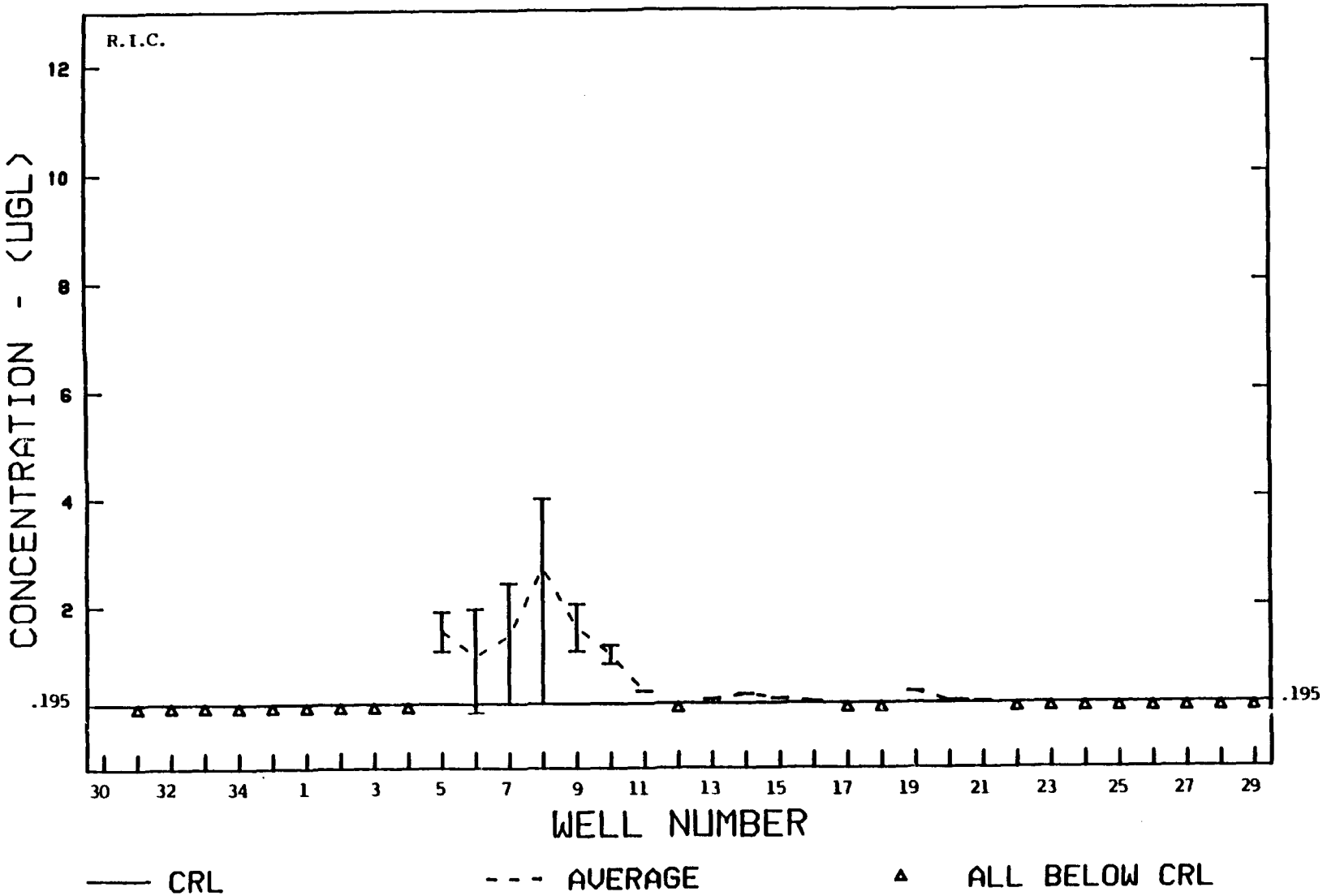


Figure 30. Dibromochloropropane (DBCP) concentrations in NBS dewatering wells, FY88.

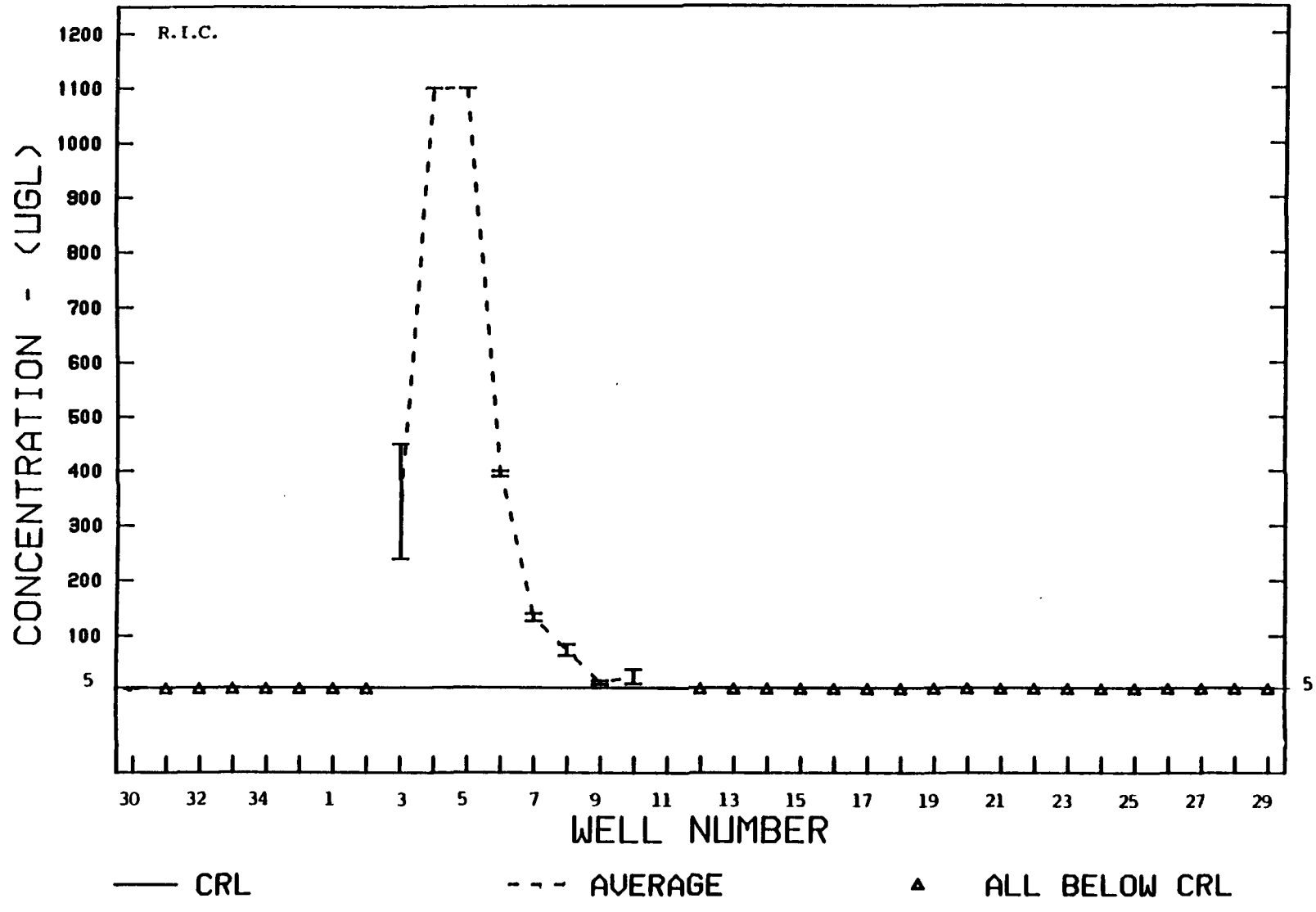


Figure 31. Dicyclopentadiene (DCPD) concentrations in NBS dewatering wells.

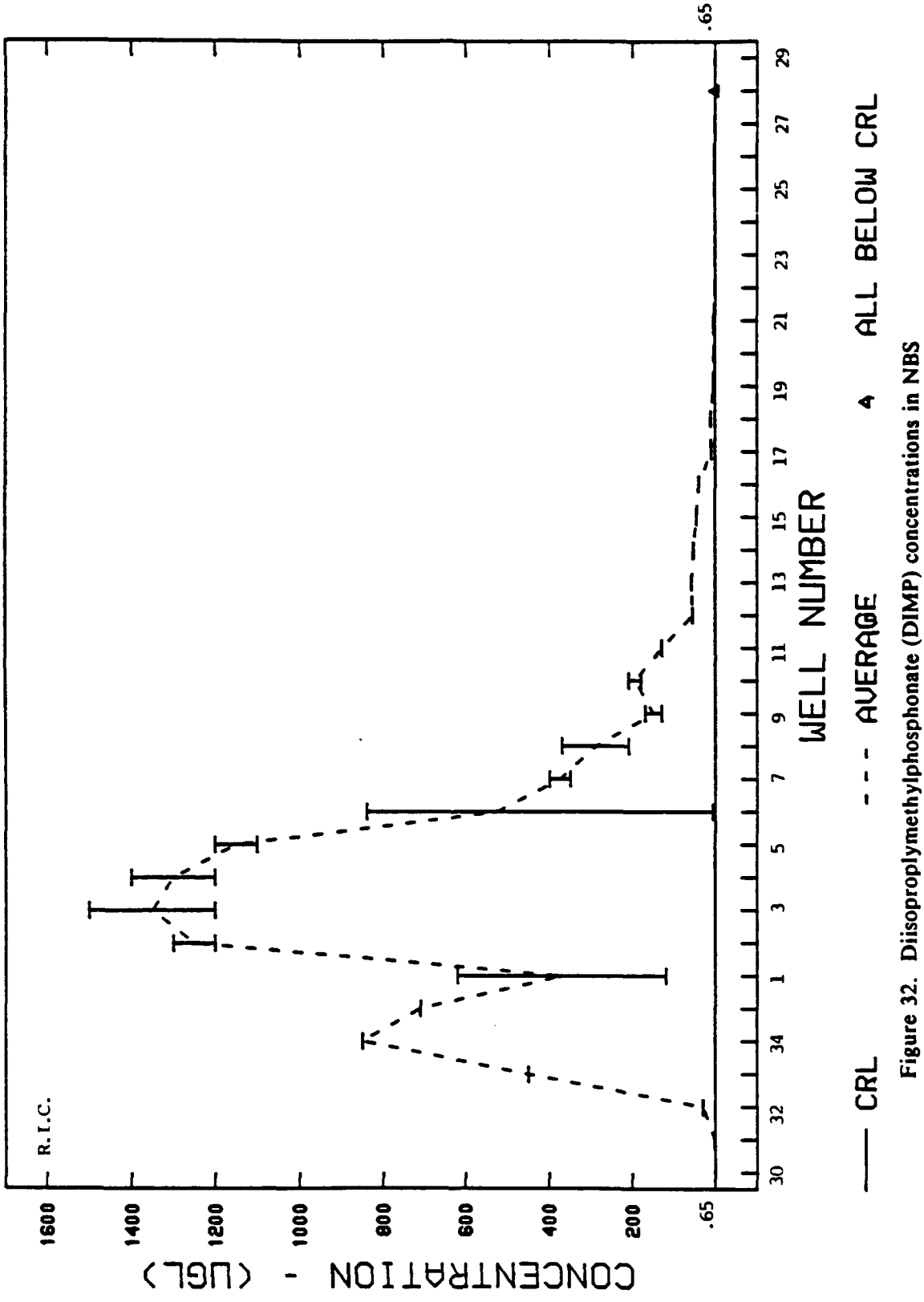


Figure 32. Diisoproplymethylphosphonate (DIMP) concentrations in NBS dewatering wells, FY88.

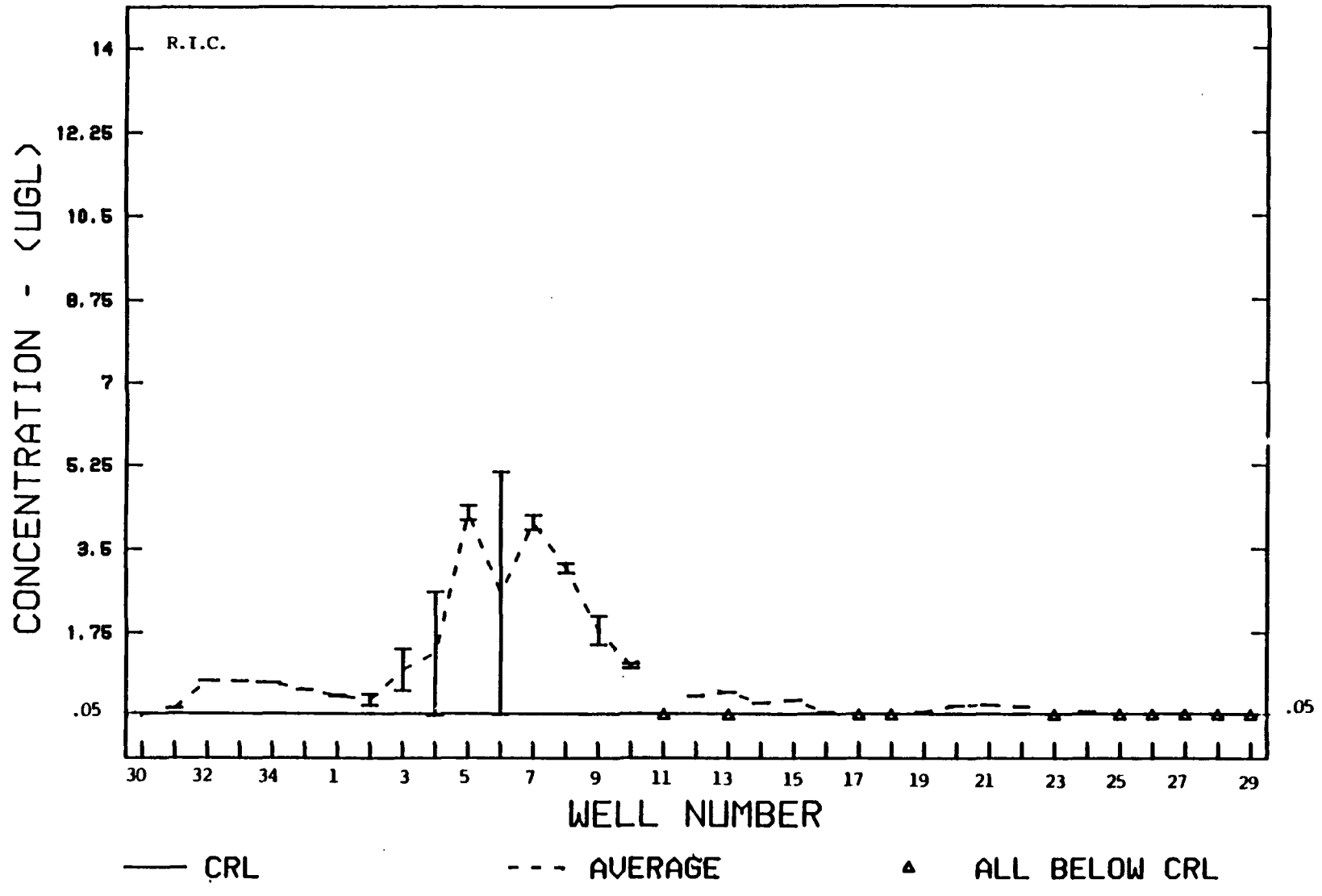


Figure 33. Dieldrin concentrations in NBS dewatering wells, FY88.

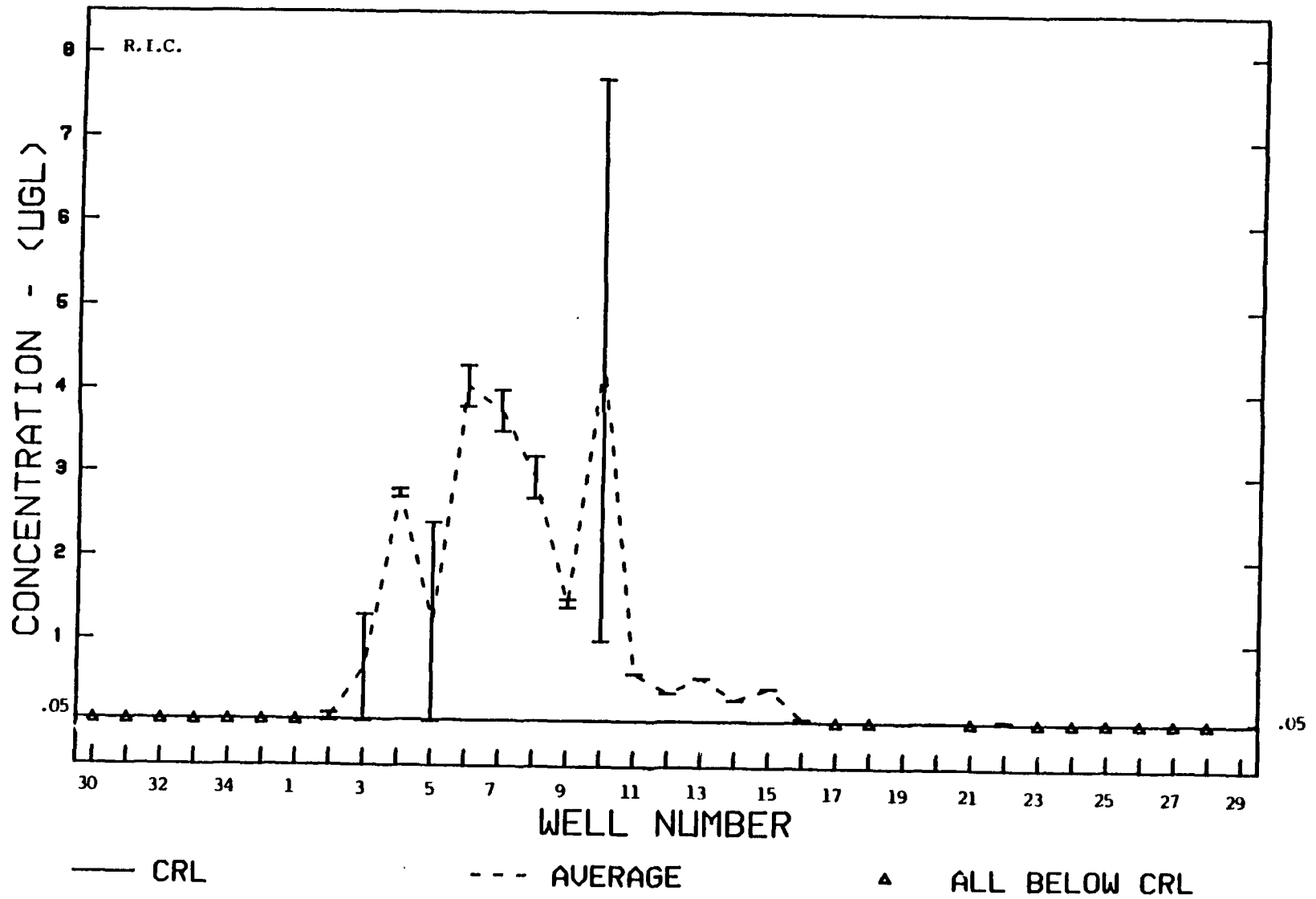


Figure 34. Endrin concentrations in NBS dewatering wells, FY88.

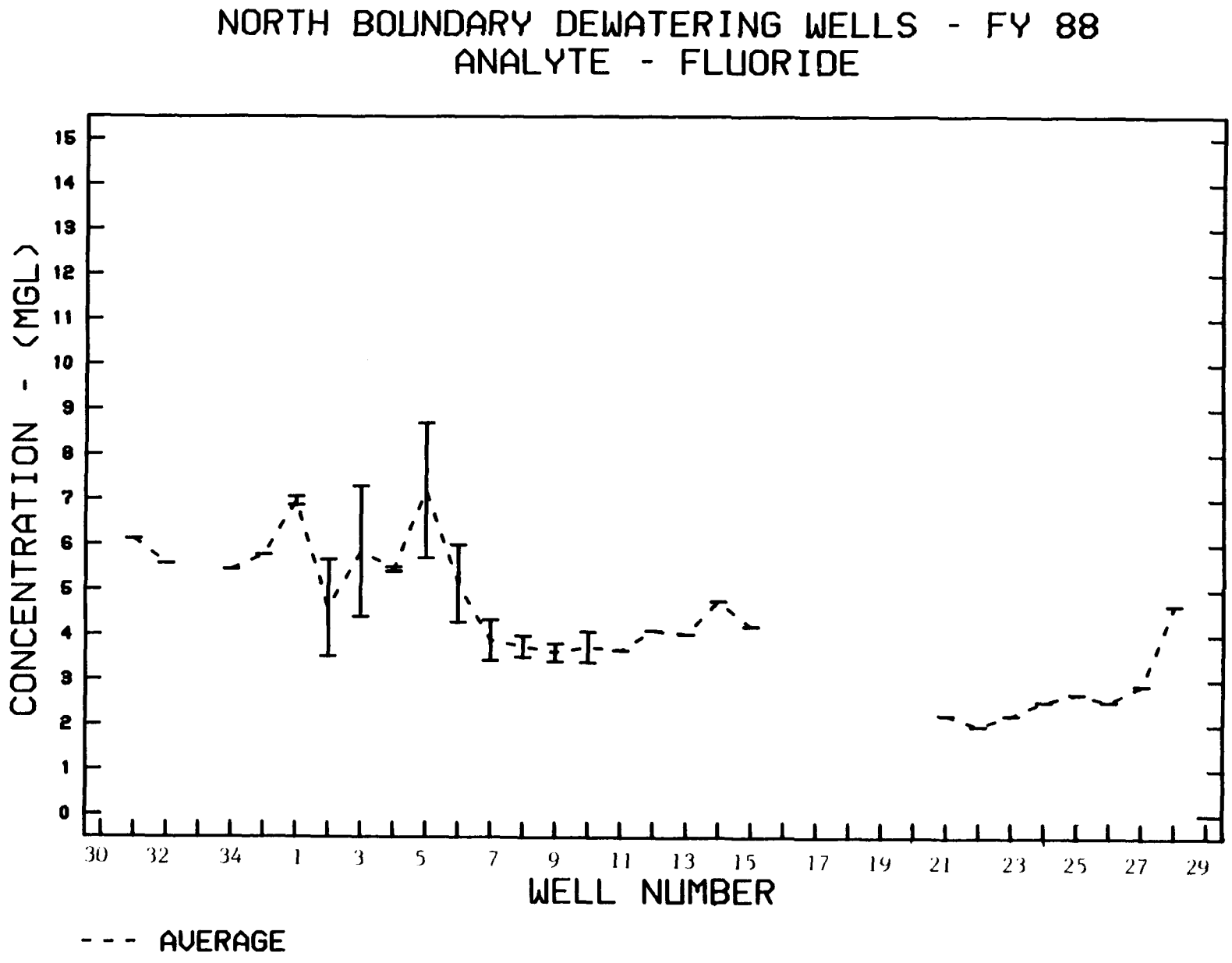


Figure 35, Fluoride concentrations in NBS dewatering wells, FY88.

Chloride

44. During FY88, the highest concentrations of chloride (Figure 28) were found centered around Well No. 4 in the western half of the control system with a maximum concentration of approximately 1700 ppm and a maximum mean concentration of 1600 ppm. Chloride concentrations decreased to the west, then increased in the vicinity of Well No. 34 to approximately 910 ppm, and then continued to decrease. East from Well No. 4, the concentrations decreased to approximately 100 ppm before increasing to approximately 320 ppm at the very end of the line of wells. The distribution pattern is consistent with those previously reported for the NBS (PMRMA 1988), however, Chloride concentrations have increased by 400 ppm to 600 ppm in the vicinity of Well No. 4.

Combined Organo-Sulfur

45. Concentrations of the organo-sulfur compounds (Figure 29) above the CRL were found in FY88 primarily in the west-central portion of the system in the vicinity of Wells No. 1 through 11. The maximum concentration was approximately 136 ppb in Well No. 6. The distribution pattern was generally the same as for previous years (PMRMA 1988).

DBCP

46. During FY88, the maximum concentration of DBCP 3.99 ppb (Figure 30) was found associated with Well No. 8. The DBCP concentrations decreased rapidly to the west and east. Several samples collected from Wells No. 5, 6, and 7 were found to have concentrations near 2 ppb. No concentrations above the CRL were found in samples collected from the east or west ends of the control system.

DCPD

47. The highest concentrations of DCPD (Figure 31) found in FY88, 1100 ppb, were found in samples collected from Wells No. 4 and 5. Concentrations of DCPD above the CRL were found distributed only in Wells No. 3 through 10. The shape of DCPD distribution found in FY88 was similar to that found in FY86 and FY87 (PMRMA 1988).

DIMP

48. During FY88, concentrations of DIMP (Figure 32) above the CRL were found in samples collected from Well Nos. 33 through 11 located along the western half of the

control system. The maximum concentration of 1500 ppb was found associated with Well No. 3. The maximum mean concentration of 1350 ppb was also associated with this well. DIMP concentrations decreased to Well No. 1 then increased to Well No. 34 before decreasing again. The DIMP distribution along the east of the control system west of Well No. 3 decreased rapidly beyond Well No. 11.

Dieldrin

49. In FY88, concentrations of dieldrin (Figure 33) were found in samples collected from dewatering wells starting at Well No. 22 and extending to the west. The maximum concentration of 5.1 ppb was found associated with Well No. 6.

Endrin

50. During FY88, the maximum concentration of endrin (Figure 34), 4.3 ppb, was found associated with Well No. 6. Endrin concentrations above the CRL were found in samples collected from most of the wells in the west-central portion of the control system. None of the samples collected from wells on the east or west ends of the system were found to contain endrin at concentrations above the CRL. The endrin distribution in FY88 was very similar to that report for FY86 and FY87 (PMRMA 1988).

Fluoride

51. IN FY88, the general trend of decreasing concentrations of fluoride (Figure 35) from west to east was found. The maximum concentration of 8.7 ppm was associated with Well No. 5. The average concentrations found in the dewatering wells along the system generally ranged from 2 to 7 ppm. Overall, the distribution and pattern of fluoride along the control system did not change significantly from previous years, although the concentrations appear to have increased slightly.

Summary of Data

52. Based on the contaminant concentration data collected for the dewatering wells during FY88, it appears that the highest concentrations of contaminants are generally found along the western half of the control system in the area of the original North Boundary System. The highest concentrations of the various contaminants are found in Wells No. 1 through 10. In general, the contaminant distribution did not change significantly between FY87 and FY88. The data indicate some variations in concentration trends over the period. Maximum chloride concentrations increased by 400 ppm to 600 ppm between FY87 and FY88.

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PART IV: GROUND-WATER FLOW EVALUATION

53. Much of this part is a summarization of previous descriptions and documentation in Thompson et al. (1985), PMSO (1987), PMRMA (1988), and Stollar and Associates (1989). New FY 88 data and interpretations made in preparing this report are noted apart.

Geology and Hydrogeology

Geologic Setting

54. The two geologic units of concern are the near-surface alluvium and the underlying Denver formation. The alluvium is composed of clay, silt, sand, and gravel. Sand predominates in the lower half and silt in the upper half. The alluvium is approximately 15 to 30 ft thick in the vicinity of the containment system. The alluvium has an approximate 5- to 20-ft saturated thickness at the north boundary at a depth of 5 to 15 ft below ground surface. Saturated thicknesses as great as 25 ft occur upgradient of the boundary. The Denver formation consists mostly of claystone members interbedded with fine- to medium-grained sandstone members.

Hydrogeology of Alluvial Aquifer

55. In the vicinity of the North Boundary System (NBS), the ground water flows northward between two Denver formation highs. In Figures 36, 37, and 38 these highs are identified as areas of unsaturated alluvium. Early flow measurements and water-level data indicated flows in the range of 250 to 325 gpm but flow has ranged 200-250 gpm and averaged about 230 gpm in recent years. Permeability of the coarse-grained alluvium is about three orders of magnitude greater than that of Denver sandstone.

56. The flow path of alluvial ground water is strongly influenced by the buried topography on the underlying Denver formation. A contour map of the Denver surface was presented by Thompson et al. (1985). Contours on that map defined an apparent broad, buried stream valley or paleodrainage feature entering the NBS area from the southwest and crossing the slurry-wall barrier east of "D" Street. The buried valley has a maximum width of 4,000 ft in Section 23 between paralleling Denver highs on east and west. The base of the aquifer is relatively flat and slopes from about 5,148 ft MSL in

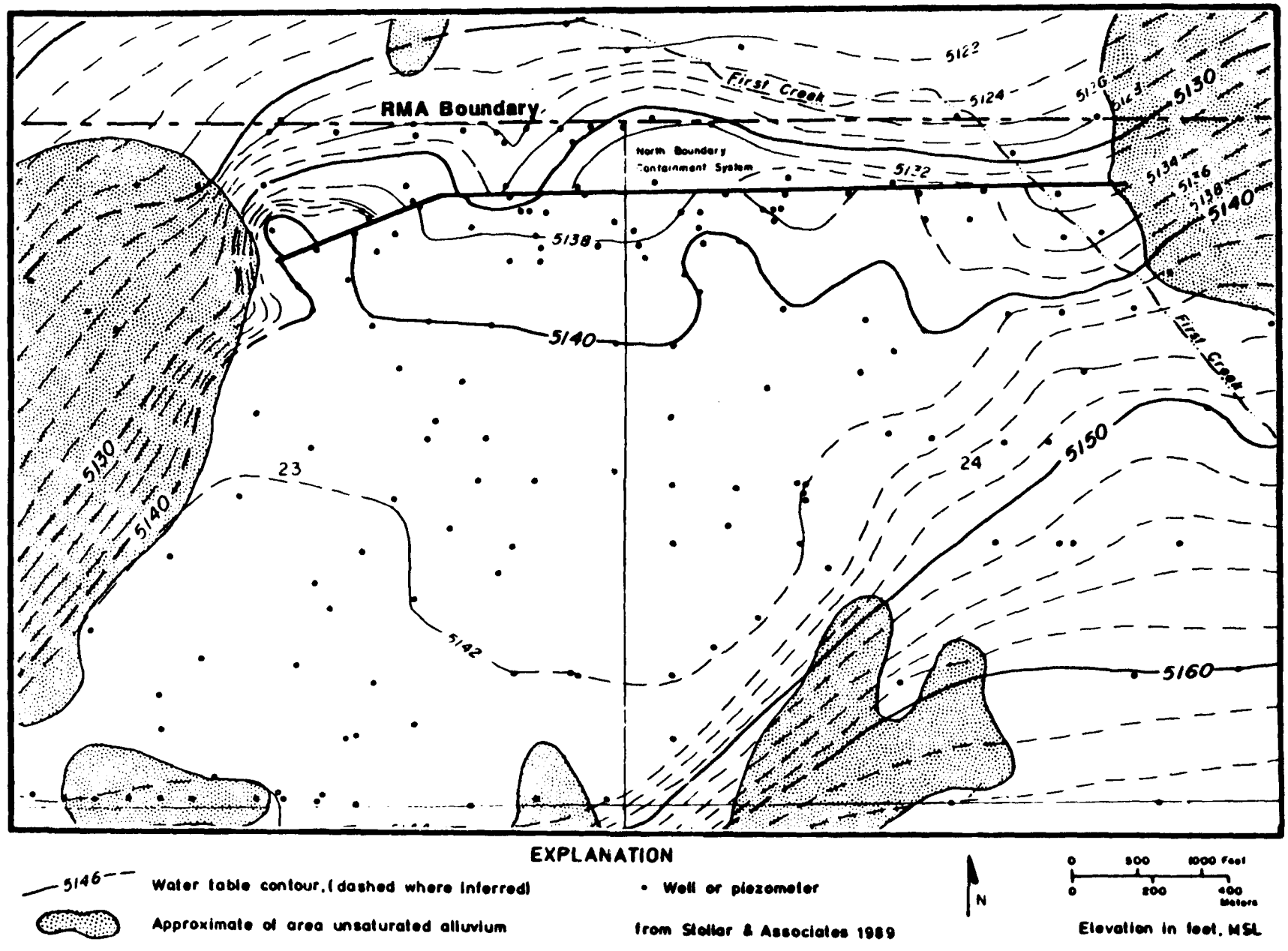

Figure 36. Water Table in Alluvial Aquifer, First Quarter FY 88.

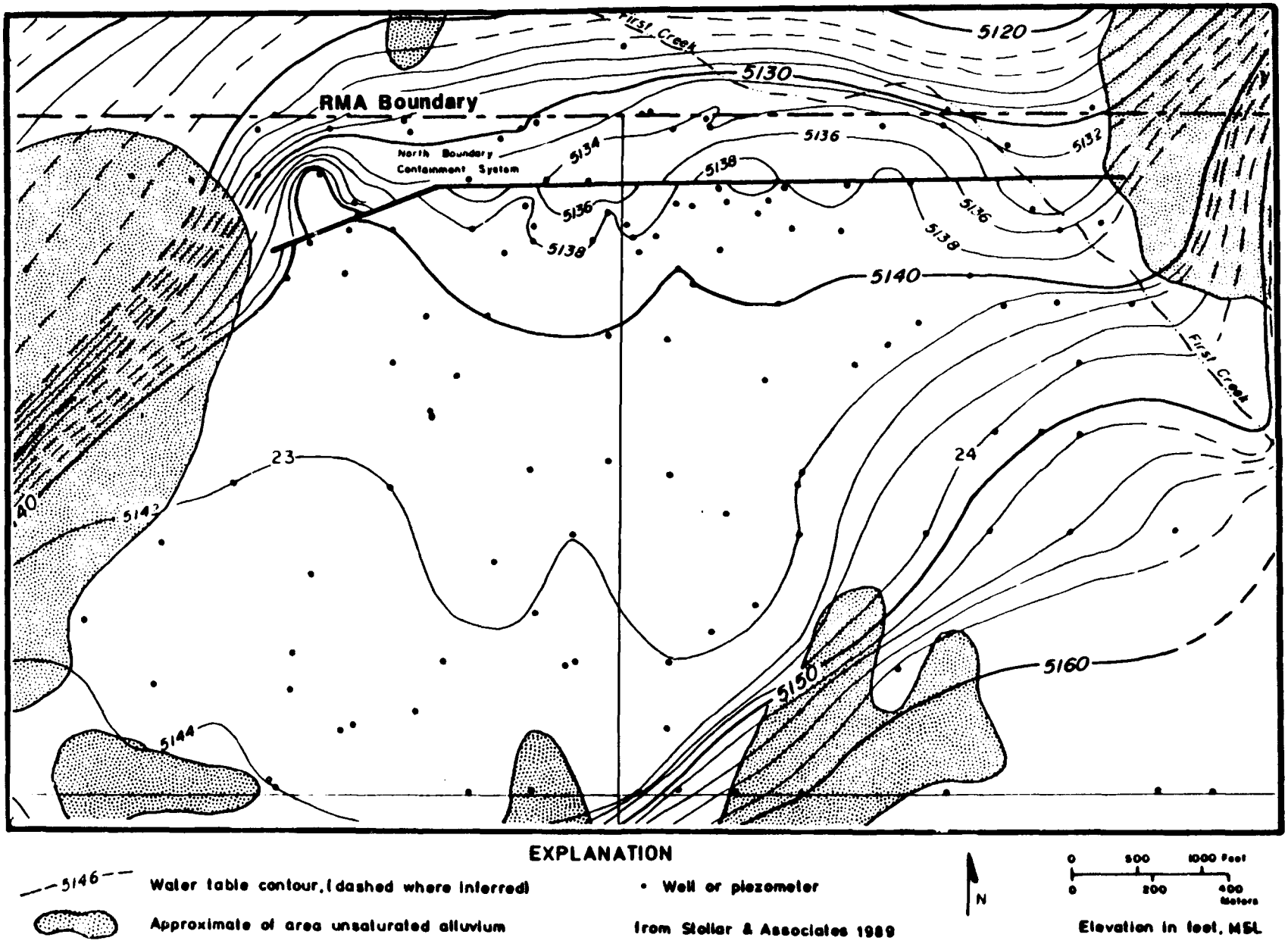

Figure 37. Water Table in Alluvial Aquifer, Third Quarter FY 88.

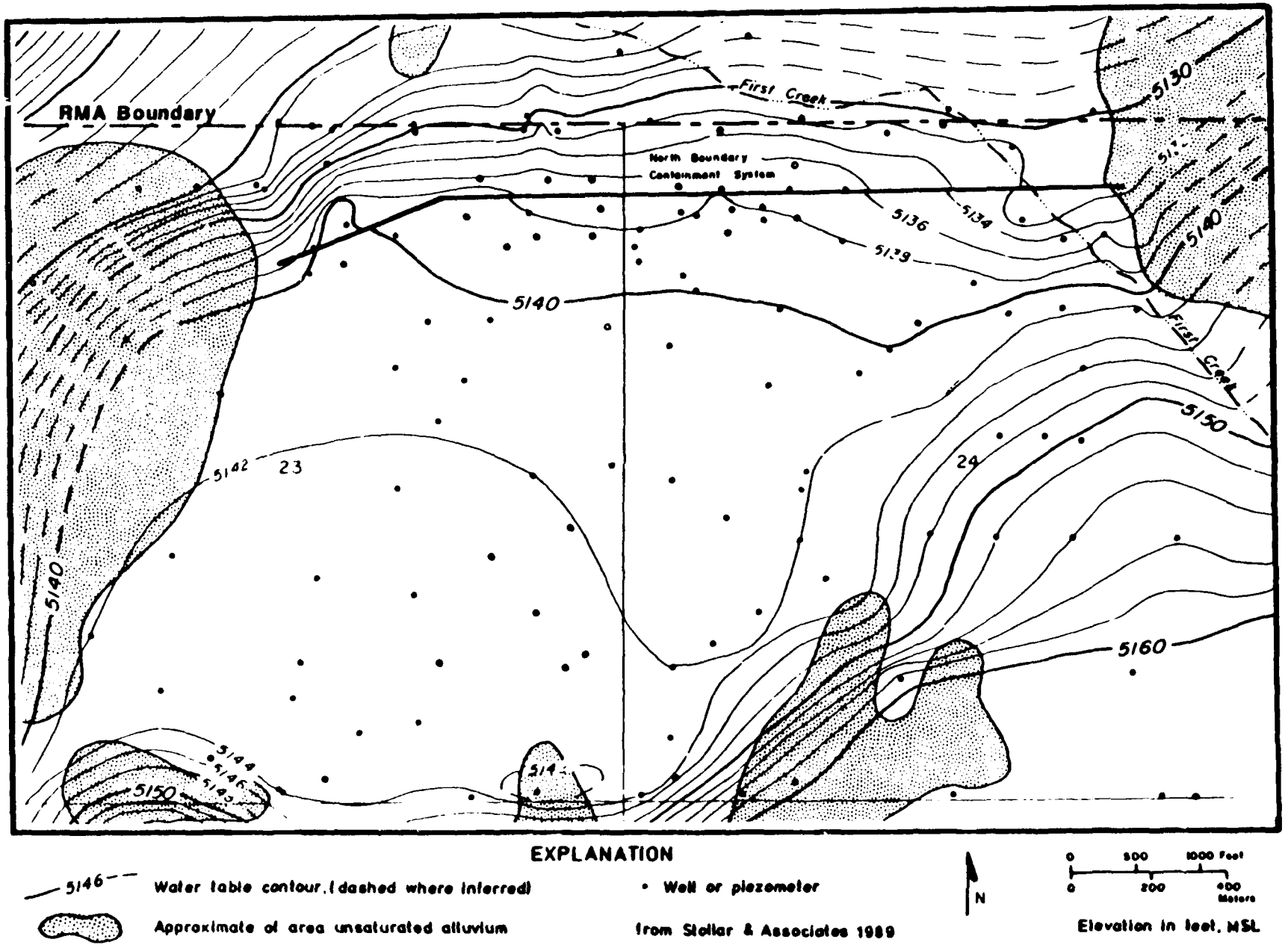

Figure 38. Water Table in Alluvial Aquifer, Fourth FY 88.

the northeast portion of Section 26 to 5,130 ft MSL near the north boundary, i.e., 18 ft in a distance of about 6,000 ft. A deeper channel was incised approximately 15 ft lower in the Denver formation. The incised channel is narrow near its origination in Section 26 but gradually widens northward to a confluence with other paleodrainage at First Creek.

57. Essentially all alluvial ground water from the northeast portion of Section 26 to east of First Creek follows the paleodrainages across the north boundary of RMA. Although subsequent erosion has largely obscured the present surface expression of the buried valley, surface drainage is somewhat similar in flow direction. The flow lines of alluvial ground water, (perpendicular to water-table contours in Figures 36 through 38), generally parallel the buried valley between the Denver formation highs. Water collecting in the alluvium overlying the Denver highs drains at locally high gradients into the thicker alluvium of the buried valley (Figures 36 through 38). The water table is relatively flat within the valley so that alluvial ground water flows at relatively low gradients toward the barrier. The channel filling coarse alluvium provides the main conduit for contaminants which migrate from the northeast portion of Section 26 to the north boundary of RMA. The major chemical plumes are largely confined within the buried valley limits.

Hydrogeology of Denver Formation

58. The Denver formation is a complex combination of beds of sandstone, siltstone, and claystone. Sandstone beds have been assigned to several hydrostratigraphic zones (Figure 39). Locally at the north boundary, these zones are separated by up to 30 ft of claystone but elsewhere adjacent zones may be in contact and act as one hydraulic unit. The sandstone units exhibit the highest permeability values in the Denver formation and represent the most likely avenues of contaminant transport within the formation.

59. Stratigraphic correlation of individual sandstone units across RMA is complicated by intervals of nondeposition or erosional truncation in the history of individual units. The Denver formation has regional strike east to northeast and an average regional dip of about 1 deg southward. Flow in all hydrostratigraphic zones is to the north and northwest (updip) based on calculated horizontal hydraulic gradients varying between 0.003 and 0.01 ft/ft.

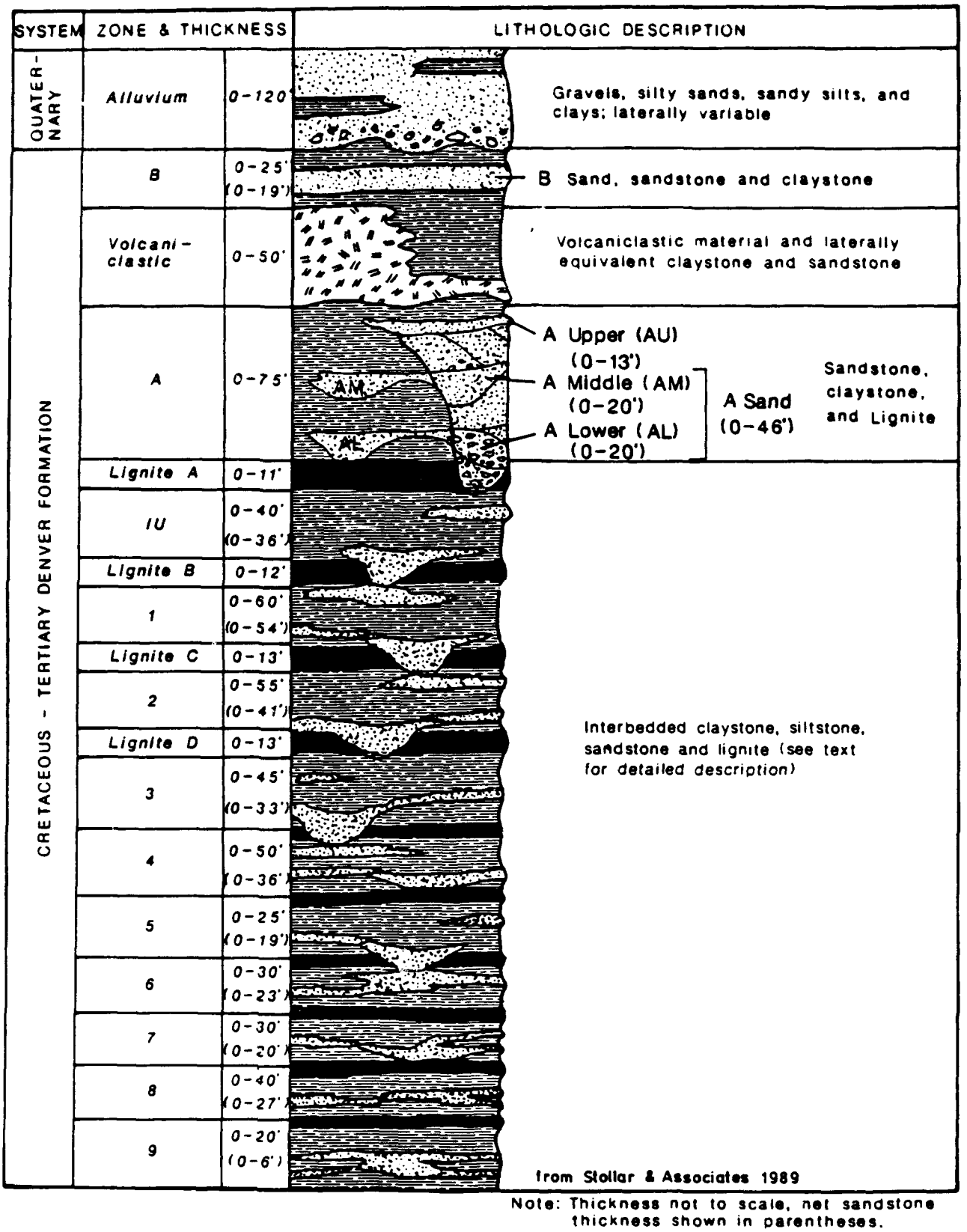

Figure 39. Hydrostratigraphic Zonation of Denver Formation.

60. Any tendency for vertical ground-water flow must be presumed to be downward from the alluvial aquifer to the Denver aquifer since observed vertical gradients averaging about 0.1 ft/ft are directed downward. Locally where sandstone or fractured claystone is immediately overlain by the alluvium, that Denver zone may be hydraulically connected and may respond like the alluvial aquifer. Head differences between sandstone units within the Denver suggest a tendency for downward ground-water movement, but the extent to which claystone aquitards prevent descent is unknown.

Ground-Water Hydrology

Trends in Alluvial Aquifer

61. Previous documentation of the NBS area has considered influences on ground-water flow. Interaction of the aquifer with First Creek flow is suggested but not well defined. Fluctuations in response to variations in annual precipitation are also inconspicuous. The Stapleton Airport station observed the following totals in recent years.

FY	Annual Precipitation (in.)
85	17.82
86	11.54
87	19.05
88	17.55

Annual precipitations for FY 88, FY 87, and FY 85 are similar. The long-term annual average is 15 in. so that one may generalize that three of the last four years have been above average in precipitation. Despite such variations, the system and ground-water flow have remained stable.

62. Maps of the water table in the alluvium are shown in Figures 36, 37, and 38 for the first, third, and fourth quarters of FY88, respectively. No readings were taken in the second quarter. Figures 40 through 43 present profiles used to evaluate changes in water table in FY 88 relative to previous years. Most of the water levels shown on the

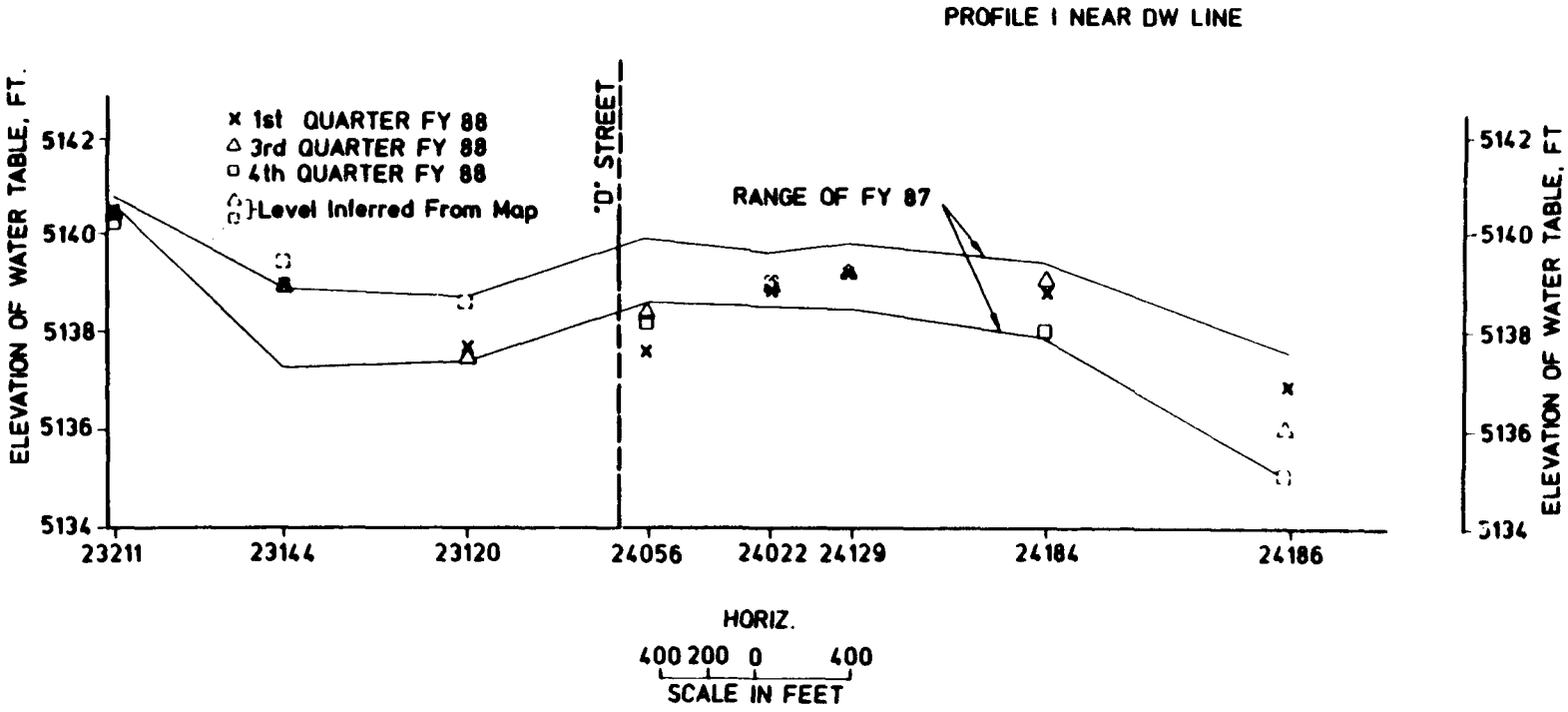

Figure 40. Profile I for FY 88.

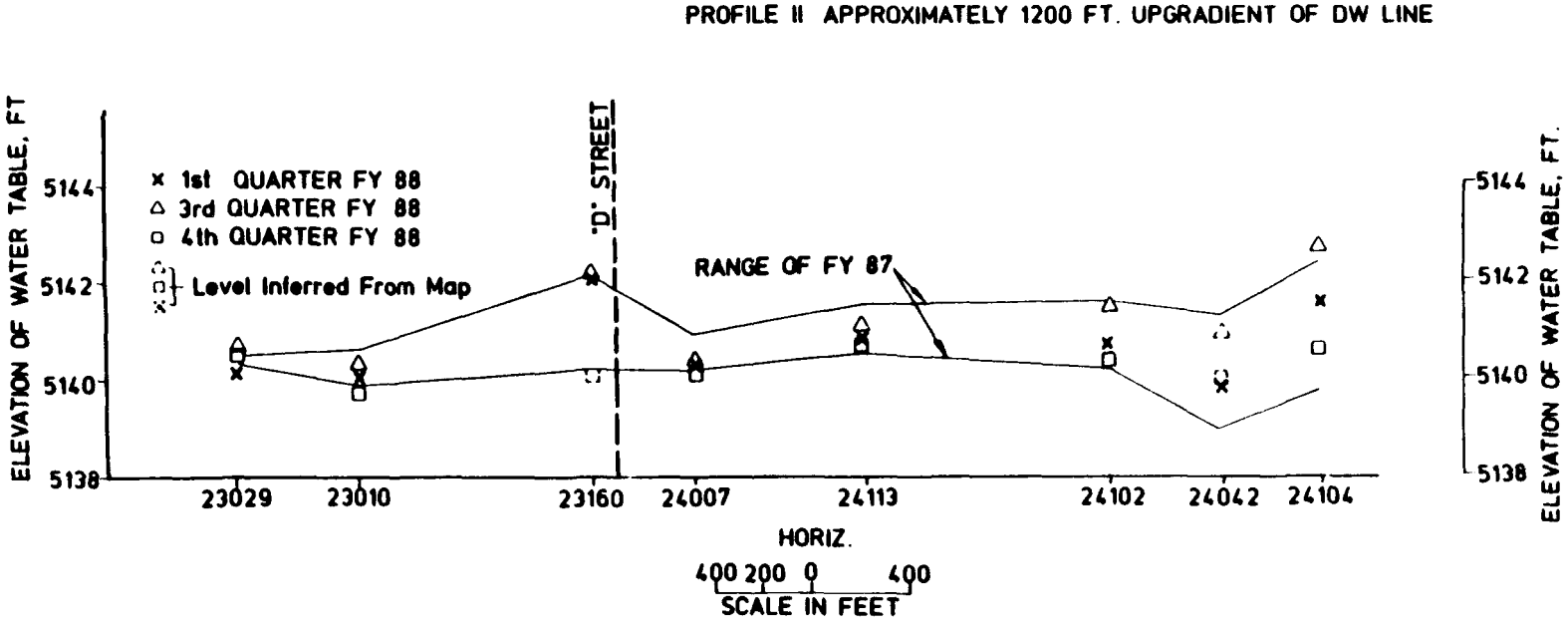

Figure 41. Profile II for FY 88.

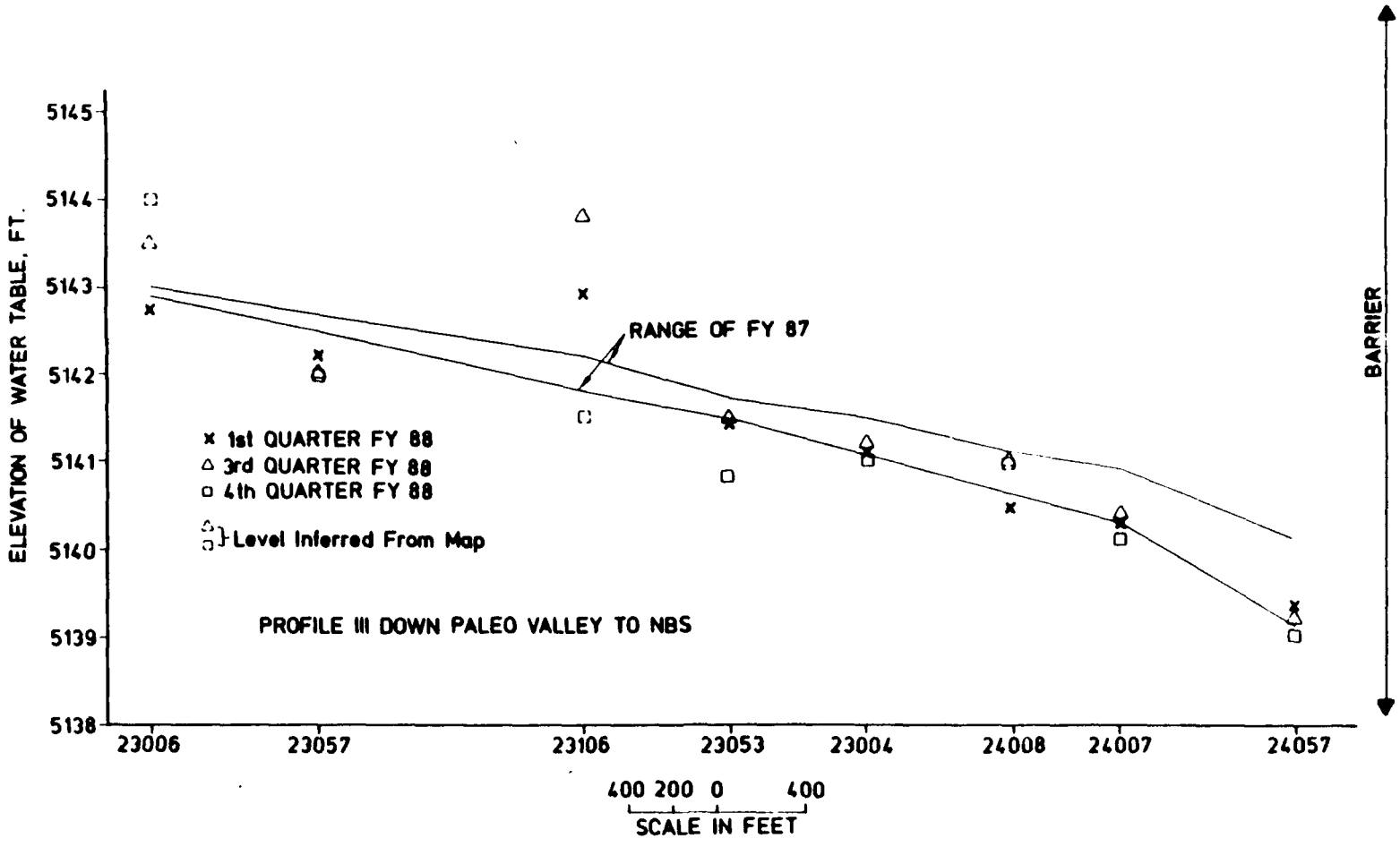

Figure 42. Profile III for FY 88.

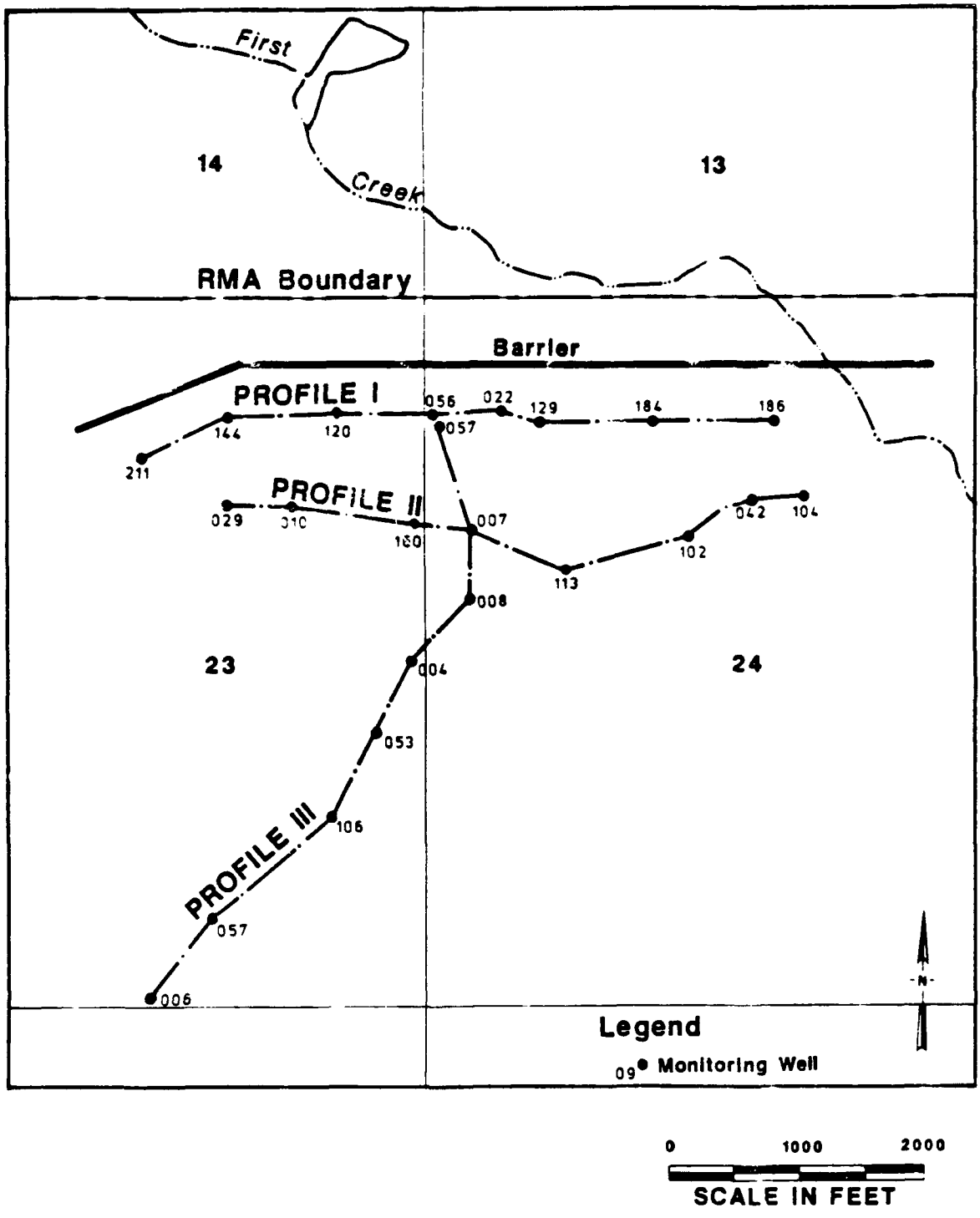

Figure 43. Location of Water-Table Profiles.

profiles are readings taken in the monitoring wells, but those indicated by dashed symbol are based on contours interpreted for the water-level maps (Figures 36 through 38). Contour maps and profiles for previous years are contained in the documents mentioned above.

63. Water-table readings indicate that seasonal fluctuations had dampened and ground-water levels were relatively stable in FY 88 compared with early years of the NBS. It was found previously that the water table upgradient of the system tended to be higher in the second and third quarters than in the first and fourth quarters. That seasonal characteristic was evident in FY 88 only for the fourth quarter which tended to have the lowest readings. Regardless, the average water table upgradient (Figure 42) was lower in FY 88 than in FY 87 and again at a new historic low. Also, notice in Figures 40 and 41 an apparent effect of First Creek, expressed partly as a broader range in water levels in Wells 24186 and 24104.

64. Most water-table readings along Profile I (Figure 40) continued within the range of the previous year though slightly lower on average. The exceptions were relatively high and low readings measured in Wells 23144 and 24056, respectively. Well 24057 (Figure 42) located close to 24056 gave higher water-table elevations falling within the range for FY 87. Water-table readings along Profile II (Figure 41) were in close accord with those of the previous year and at first suggest little or no decline in water table 1,200 ft upgradient of the dewatering wells. Profile III (Figure 42) parallels the direction of ground-water flow. In contrast to Profile II, this profile seems to reveal a pervasive decline of water table averaging about 0.4 ft at least as far as Well 23057, a distance of almost 5,000 ft upgradient. Actually, a broad decline over this area has been well documented in previous years and appears to have continued (Figure 44). The conspicuously discordant water levels measured in Well 23106 are unexplained and should be ignored for the present.

65. Overall, the NBS plant flow rate averaged for the entire year FY 88 was in close accord with rates for previous years.

FY	Average Flow Rate (gpm)
85	225.7
86	240.1
87	249.3
88	235.8

Rates in FY 87 had tended to be lower in the second and third quarters than in the first and fourth quarters. Although the first quarter of FY 88 was similarly high in flow rate, the fourth quarter showed a relatively low flow rate in contrast.

66. An analysis made last year is repeated here to provide an estimate of the excess flow rate needed to account for the observed water-level drop from FY 87 to FY 88. The flow required to lower the water table is based on the following assumptions
and reasoning:

a. Area upgradient of the barrier affected by the drop in water table is 4,000 ft east-west and 6,000 ft north-south. This is essentially the width and length of the paleovalley discussed previously.

b. Average drop in the water table over the area is 0.4 ft as suggested in Figure 44.

c. Apparent specific yield is 0.1.

Accordingly, the volume of water yielded by the decline in water level is 0.1 0.4 ft 6,000 ft 4,000 ft = 960,000 ft3 or 7,180,000 gal. The flow rate required to remove this volume in one year (525,600 min) is 7,180,000 gal / 525,600 min = 13.7 gpm. This calculation indicates that natural ground-water flow toward the NBS was being exceeded by about 14 gpm. Thus, for FY 88, the system flow rate minus the flow rate used to lower the water table was equal to the equilibrium flow of ground water toward the system, i.e., 236-14 gpm or approximately 222 gpm.

FY	Average Flow Rate (gpm)
85	225.7
86	240.1
87	249.3
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Rates in FY 87 had tended to be lower in the second and third quarters than in the first and fourth quarters. Although the first quarter of FY 88 was similarly high in flow rate, the fourth quarter showed a relatively low flow rate in contrast.

66. An analysis made last year is repeated here to provide an estimate of the excess flow rate needed to account for the observed water-level drop from FY 87 to FY 88. The flow required to lower the water table is based on the following assumptions and reasoning:

a. Area upgradient of the barrier affected by the drop in water table is 4,000 ft east-west and 6,000 ft north-south. This is essentially the width and length of the paleovalley discussed previously.

b. Average drop in the water table over the area is 0.4 ft as suggested in Figure 44.

c. Apparent specific yield is 0.1.

Accordingly, the volume of water yielded by the decline in water level is 0.1 × 0.4 ft × 6,000 ft × 4,000 ft = 960,000 ft^3 or 7,180,000 gal. The flow rate required to remove this volume in one year (525,600 min) is 7,180,000 gal / 525,600 min = 13.7 gpm. This calculation indicates that natural ground-water flow toward the NBS was being exceeded by about 14 gpm. Thus, for FY 88, the system flow rate minus the flow rate used to lower the water table was equal to the equilibrium flow of ground water toward the system, i.e., 236-14 gpm or approximately 222 gpm.

PART V: CONCLUSIONS

67. The NBS is intercepting essentially all of the alluvial ground water flowing toward the north boundary. The ground water continues to follow the same flow pattern recognized in FY 85 through FY 87. The flow is primarily within the buried valley through Sections 23 and 24. However, ground-water levels upgradient of the NBS during FY 88 continued the gradual decline of FY 85 through FY 87. Precipitation does not significantly affect water levels. The system flow rate of 236 gpm slightly exceeded ground-water flow toward the system. Based on lower FY 88 ground-water levels upgradient of the NBS, natural flow toward the system was approximately 222 gpm.

68. The North Boundary System treatment plant is effectively removing organic contaminants from the influent to the system. The ground water being recharged contains levels of organic contaminants generally below certified reporting limits. A few effluent samples collected during the year had concentrations of dieldrin, chloroform, DIMP, and DBCP above certified reporting limits. Inorganic contaminants such as chloride and fluoride are not being treated. However, treatment plant influent/effluent are monitored for fluoride and chloride, and, by proper control of influent streams, the effluent fluoride concentration has generally been maintained below EPA's secondary drinking water standard of 4.0 ppm. Three effluent samples collected during the year were found to contain fluoride concentrations between 4.0 and 4.9 ppm. The average chloride concentration in the effluent was approximately 300 ppm during FY88. Maximum chloride concentrations in the dewatering wells increased by 400 to 600 ppm between FY87 and FY88.

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APPENDIX A

FLOW DATA

R.I.C.

NORTH BOUNDARY TREATMENT PLANT
FY 88 WEEKLY FLOWS FOR ADSORBERS

DATE	A GAL(00)	A GPM	B GAL(00)	B GPM	C GAL(00)	C GPM	TOTAL GAL(00)	TOTAL GPM
10/07/87	7732	76.67	4874	48.33	11355	112.59	23961	237.59
10/14/87	4776	47.40	8848	87.82	9989	99.15	23613	234.37
10/21/87	4899	48.67	7963	79.12	10128	100.63	22990	228.42
10/28/87	4866	47.96	7415	73.09	9842	97.01	22123	218.06
11/04/87	3896	38.65	6429	63.78	11405	113.14	21730	215.57
11/11/87	4179	41.45	7032	69.75	9333	92.58	20544	203.78
11/18/87	4559	45.43	8024	79.95	9430	93.96	22013	219.34
11/25/87	6537	64.51	9788	96.60	12421	122.58	28746	283.69
12/02/87	5813	57.75	8595	85.74	12310	122.31	26718	265.80
12/09/87	6096	60.48	9854	97.76	11778	116.85	27728	275.09
12/16/87	5664	56.19	10230	101.49	11917	118.22	27811	275.90
12/23/87	5781	57.32	9967	98.83	11995	118.94	27743	275.09
12/30/87	5234	51.49	10609	104.37	12163	119.66	28006	275.52
01/06/88	6388	63.69	9828	97.99	12010	119.74	28226	281.42
01/13/88	5225	51.89	8470	84.11	10379	103.07	24074	239.07
01/20/88	4780	47.47	8448	83.89	7147	70.97	20375	202.33
01/27/88	4796	47.63	7090	70.41	8572	85.12	20458	203.16
02/03/88	5598	55.45	7287	72.18	8980	88.95	21865	216.58
02/10/88	5253	52.19	9433	93.72	9803	97.40	24489	243.31
02/17/88	5641	55.28	8444	82.74	9906	97.07	23991	235.09
02/24/88	4914	49.34	8748	87.83	9188	92.25	22850	229.42
03/02/88	4871	48.32	9041	89.69	7706	76.45	21618	214.46
03/09/88	5035	49.88	9215	91.28	9750	96.58	24000	237.74
03/16/88	4200	41.71	8418	83.59	10913	108.37	23531	233.67
03/23/88	4725	46.97	9420	93.64	11041	109.75	25186	250.36
03/30/88	5720	56.75	9209	91.36	10795	107.09	25724	255.20
04/06/88	4903	48.93	7943	79.27	10972	109.50	23818	237.70
04/13/88	6123	60.68	7202	71.38	10590	104.96	23915	237.02
04/20/88	6609	65.50	7896	78.26	11678	115.74	26183	259.50
04/27/88	6624	65.84	7942	78.95	11778	117.08	26344	261.87
05/04/88	6892	68.31	8430	83.55	11358	112.57	26680	264.43
05/11/88	6976	69.24	7985	79.26	11748	116.61	26709	265.11
05/18/88	5639	55.91	8264	81.94	11954	118.53	25857	256.38
05/25/88	4963	49.09	8352	82.61	11620	114.94	24935	246.64
06/01/88	5216	51.87	7924	78.81	11534	114.71	24674	245.39
06/08/88	4513	44.71	6855	67.90	10584	104.84	21952	217.45
06/15/88	5169	51.38	6295	62.57	10438	103.76	21902	217.71
06/22/88	5703	56.41	6717	66.44	10755	106.38	23175	229.23
06/29/88	4887	48.68	7279	72.50	10975	109.31	23141	230.49
07/06/88	4328	42.94	6788	67.34	9922	98.43	21038	208.71
07/13/88	5104	50.56	6621	65.59	8784	87.01	20509	203.16
07/20/88	4665	46.33	7845	77.91	11048	109.72	23558	233.96
07/27/88	4719	46.83	7159	71.05	10843	107.61	22721	225.49

R.I.C.

NORTH BOUNDARY TREATMENT PLANT
FY 88 WEEKLY FLOWS FOR ADSORBERS

DATE	A		B		C		TOTAL	
	GAL(00)	GPM	GAL(00)	GPM	GAL(00)	GPM	GAL(00)	GPM
08/03/88	5567	55.17	3829	37.95	10581	104.87	19977	197.99
08/10/88	4894	48.55	7161	71.04	9604	95.28	21659	214.87
08/17/88	5654	56.06	7867	78.01	10001	99.17	23522	233.24
08/24/88	5311	52.69	8275	82.09	10576	104.92	24162	239.70
08/31/88	5438	53.96	8141	80.79	10290	102.11	23869	236.86
09/07/88	5770	57.20	7528	74.62	9484	94.01	22782	225.83
09/14/88	5392	53.55	8129	80.72	9258	91.94	22779	226.21
09/21/88	4451	44.07	6675	66.09	9070	89.80	20196	199.96
09/30/88	5534	42.79	9295	71.87	10834	83.77	25663	198.43

R.I.C.

NORTH BOUNDARY TREATMENT PLANT
FY 88 QUARTERLY FLOWS FOR ADSORBERS

	A		B		C		TOTAL	
DATE	GAL(00)	GPM	GAL(00)	GPM	GAL(00)	GPM	GAL(00)	GPM
1st QTR	70032	53.38	109628	83.59	144066	109.82	323726	246.79
2nd QTR	67146	51.27	113051	86.34	126190	96.37	306387	233.99
3rd QTR	74217	56.66	99084	75.65	145984	111.46	319285	243.76
4th QTR	66827	50.05	95313	71.16	130295	97.59	292435	218.80
ANNUAL	278222	52.84	417076	79.18	546535	103.81	1241833	235.83

APPENDIX B

TREATMENT PLANT WATER QUALITY DATA STATISTICAL SUMMARY AND GC/MS ANALYSIS

NORTH BOUNDARY TREATMENT PLANT - ADSORBER A FOR FY 88

SAMPLE DATE	ORG	111TCE ug/l	112TCE ug/l	11DCE ug/l	11DCLE ug/l	12DCE ug/l	12DCLE ug/l	ALDRN ug/l	AS ug/l	BTZ ug/l
10/07/87	ES	....	....	....	....	....	....	LT 0.083	....	....
10/14/87	ES	....	....	....	....	....	....	LT 0.083	....	....
10/21/87	ES	....	....	....	....	....	....	LT 0.083	....	....
10/28/87	ES	....	....	....	....	....	....	LT 0.083	....	....
11/04/87	ES	LT 1.09	LT 1.63	LT 1.85	LT 1.93	....	4.19	LT 0.083	LT 2.52	LT 1.10
11/12/87	ES	....	....	....	....	....	....	LT 0.083	....	....
11/18/87	ES	....	....	....	....	....	....	LT 0.083	....	....
11/25/87	ES	....	....	....	....	....	....	....	....	....
12/02/87	ES	....	....	....	...	....	....	LT 0.083	....	....
12/09/87	ES	LT 1.09	LT 1.63	LT 1.85	LT 1.93	....	3.11	LT 0.083	5.85	LT 1.10
12/16/87	ES	....	....	....	....	....	....	LT 0.083	....	....
12/23/87	ES	....	....	....	....	....	....	....	....	....
12/30/87	ES	....	....	....	....	....	....	....	....	....
01/06/88	ES	....	....	....	....	....	....	LT 0.083	....	....
01/13/88	ES	....	....	....	....	....	....	LT 0.083	....	....
01/20/88	ES	LT 1.09	LT 1.63	LT 1.85	LT 1.93	....	4.68	LT 0.083	2.77	LT 1.10
01/28/88	ES	....	....	....	....	....	....	LT 0.083	....	....
02/03/88	ES	....	....	....	....	....	....	LT 0.083	....	....
02/10/88	ES	....	....	....	....	....	....	LT 0.083	....	....
02/17/88	ES	LT 1.09	LT 1.63	LT 1.85	LT 1.93	....	5.08	LT 0.083	2.99	LT 1.10
02/24/88	RM	....	....	....	....	LT 1.00	LT 1.00	LT 0.200	....	....
03/02/88	RM	....	....	....	....	LT 1.00	LT 1.00	LT 0.200	....	....
03/09/88	RM	....	....	....	....	LT 1.00	LT 1.00	LT 0.200	....	....
03/16/88	RM	....	....	....	....	LT 1.00	LT 1.00	0.380	....	....
03/23/88	RM	....	....	....	....	LT 1.00	LT 1.00	LT 0.200	....	....
03/30/88	RM	....	....	....	....	LT 1.00	LT 1.00	LT 0.200	....	....
04/06/88	RM	....	....	....	....	....	....	0.810	....	....
04/13/88	UB	....	....	....	....	....	....	0.901	....	....
04/20/88	UB	....	....	....	....	....	....	LT 0.050	....	....
04/27/88	UB	....	....	....	....	....	....	LT 0.050	....	....
05/04/88	UB	....	....	....	....	....	....	0.660	....	....
05/11/88	UB	....	....	....	....	....	....	LT 0.050	....	....
05/18/88	UB	....	....	....	....	....	....	LT 0.050	....	....
05/25/88	UB	....	....	....	....	....	....	0.640	....	....
06/01/88	UB	....	....	....	....	....	....	LT 0.050	....	....
06/08/88	UB	....	....	....	....	....	....	LT 0.050	....	....
06/15/88	UB	....	....	....	....	....	....	0.108	....	....
06/22/88	UB	....	....	....	....	....	....	0.113	....	....
06/29/88	UB	....	....	....	....	....	....	LT 0.050	....	....
07/06/88	UB	....	....	....	....	....	....	....	....	....
07/13/88	UB	....	....	....	....	....	....	0.129	....	....
07/20/88	UB	....	....	....	....	....	....	0.125	....	....
07/27/88	UB	....	....	....	....	....	....	0.025	....	....
08/03/88	UB	....	....	....	....	....	....	LT 0.050	....	....
08/10/88	UB	....	....	....	....	....	....	....	....	....
08/17/88	UB	....	....	....	....	....	....	LT 0.050	....	....
08/24/88	UB	....	....	....	....	....	....	....	....	....
08/31/88	UB	....	....	....	....	....	....	LT 0.500	....	....
09/07/88	UB	....	....	....	....	....	....	LT 0.500	....	....
09/14/88	UB	....	....	....	....	....	....	LT 0.500	....	....
09/21/88	UB	....	....	....	....	....	....	LT 0.050	....	....
09/28/88	UB	....	....	....	....	....	....	....	....	....

LT = LESS THAN The Following Concentration .... INDICATES THAT ANALYSIS WAS NOT PERFORMED

ug/l = MICROGRAM PER LITER mg/l = MILLIGRAM PER LITER

NORTH BOUNDARY TREATMENT PLANT - ADSORBER A FOR FY 88

SAMPLE DATE	ORG	C6H6 ug/l	CCL4 ug/l	CH2CL2 ug/l	CHCL3 ug/l	CHLORIDE mg/l	CLC6H5 ug/l	CLDAN ug/l	CPMS ug/l	CPMSO ug/l
10/07/87	ES	....	....	....	....	482	....	LT 0.152	....	....
10/14/87	ES	....	....	....	....	864	....	LT 0.152	....	....
10/21/87	ES	....	....	....	....	861	....	LT 0.152	....	....
10/28/87	ES	....	....	....	....	500	....	LT 0.152	....	....
11/04/87	ES	LT 1.92	LT 1.69	LT 2.48	7.52	105	LT 1.36	LT 0.152	12.80	27.00
11/12/87	ES	....	....	....	....	833	....	LT 0.152	....	....
11/18/87	ES	....	....	....	....	800	....	LT 0.152	....	....
11/25/87	ES	....	....	....	....		....	....	....	....
12/02/87	ES	....	....	....	....		....	LT 0.152	....	....
12/09/87	ES	LT 1.92	LT 1.69	LT 2.48	4.37	832	LT 1.36	LT 0.152	3.81	21.90
12/16/87	ES	....	....	....	....	976	....	LT 0.152	....	....
12/23/87	ES	....	....	....	....		....	....	....	....
12/30/87	ES	....	....	....	....		....	....	....	....
01/06/88	ES	....	....	....	....	1130	....	LT 0.152	....	....
01/13/88	ES	....	....	....	....	920	....	LT 0.152	....	....
01/20/88	ES	LT 1.92	LT 1.69	LT 2.48	4.58	928	LT 1.36	LT 0.152	13.00	30.10
01/28/88	ES	....	....	....	....	923	....	LT 0.152	....	....
02/03/88	ES	....	....	....	....	953	....	LT 0.152	....	....
02/10/88	ES	....	....	....	....	842	....	LT 0.152	....	....
02/17/88	ES	LT 1.92	LT 1.69	LT 2.48	4.33	934	LT 1.36	LT 0.152	12.40	30.00
02/24/88	RM	....	LT 1.00	....	20.00	1020	....	....	LT 20.00	27.30
03/02/88	RM	....	200.00	....	20.00	954	....	....	LT 20.00	23.40
03/09/88	RM	....	LT 1.00	....	10.00	1000	....	....	LT 20.00	24.70
03/16/88	RM	....	LT 1.00	....	20.00	900	....	....	LT 20.00	25.80
03/23/88	RM	....	LT 1.00	....	20.00	....	....	....	LT 20.00	29.20
03/30/88	RM	....	LT 1.00	....	20.00	1000	....	....	LT 20.00	26.20
04/06/88	RM	....	....	....	....	880	....	....	7.06	32.30
04/13/88	UB	....	....	....	....	100	....	....	6.40	24.10
04/20/88	UB	....	....	....	....	720	....	....	8.93	34.30
04/27/88	UB	....	....	....	....	880	....	....	LT 5.69	29.90
05/04/88	UB	....	....	....	....	....	....	....	6.93	32.50
05/11/88	UB	....	....	....	....	100	....	....	6.36	34.00
05/18/88	UB	....	....	....	....	100	....	....	LT 5.69	30.20
05/25/88	UB	....	....	....	....	860	....	....	LT 5.69	29.70
06/01/88	UB	....	....	....	....	600	....	....	LT 5.69	25.90
06/08/88	UB	....	....	....	....	900	....	....	6.32	33.00
06/15/88	UB	....	....	....	....	670	....	....	LT 5.69	37.20
06/22/88	UB	....	....	....	....	110	....	....	LT 5.69	32.60
06/29/88	UB	....	....	....	....	560	....	....	LT 5.69	14.80
07/06/88	UB	....	....	....	....	....	....	....	....	....
07/13/88	UB	....	....	....	....	....	....	....	LT 5.69	26.90
07/20/88	UB	....	....	....	....	770	....	....	6.53	39.30
07/27/88	UB	....	....	....	....	950	....	....	8.07	49.50
08/03/88	UB	....	....	....	....	910	....	....	LT 5.69	LT 11.50
08/10/88	UB	....	....	....	....	....	....	....	....	....
08/17/88	UB	....	....	....	....	880	....	....	6.53	35.20
08/24/88	UB	....	....	....	....	....	....	....	....	....
08/31/88	UB	....	....	....	....	900	....	....	7.98	44.00
09/07/88	UB	....	....	....	....	910	....	....	7.43	41.30
09/14/88	UB	....	....	....	....	110	....	....	LT 5.69	LT 11.50
09/21/88	UB	....	....	....	....	130	....	....	LT 5.69	18.30
09/28/88	UB	....	....	....	....	....	....	....	....	....

LT = LESS THAN The Following Concentration .... INDICATES THAT ANALYSIS WAS NOT PERFORMED

ug/l = MICROGRAM PER LITER mg/l = MILLIGRAM PER LITER

NORTH BOUNDARY TREATMENT PLANT - ADSORBER A FOR FY 88

SAMPLE DATE	ORG	CPMSO2 ug/l	DBCP ug/l	DCPD ug/l	DIMP ug/l	DITH ug/l	DLDRN ug/l	DMDS ug/l	DMMP ug/l	ENDRN ug/l
10/07/87	ES	....	0.48	152	641	....	0.836	....	LT 16.30	0.46
10/14/87	ES	....	1.04	254	1250	....	2.670	....	LT 16.30	2.87
10/21/87	ES	....	0.99	271	1320	....	2.970	....	LT 16.30	2.68
10/28/87	ES	....	0.48	166	609	....	1.780	....	LT 16.30	1.51
11/04/87	ES	45.00	0.89	305	1320	31.70	2.540	LT 1.16	LT 16.30	4.73
11/12/87	ES	....	0.99	360	1290	....	2.890	....	LT 16.30	6.01
11/18/87	ES	....	0.85	360	1200	....	2.110	....	LT 16.30	1.25
11/25/87	ES	....	....	....	....	....	....	....	....	....
12/02/87	ES	....	0.98	593	1180	....	3.250	....	LT 16.30	....
12/09/87	ES	24.50	0.38	234	833	13.30	1.660	LT 1.16	LT 16.30	1.46
12/16/87	ES	....	1.05	489	1290	....	2.610	....	LT 16.30	1.42
12/23/87	ES	....	....	....	....	....	....	....	....	....
12/30/87	ES	....	....	....	....	....	....	....	....	....
01/06/88	ES	....	0.93	400	1380	....	2.760	....	LT 16.30	2.94
01/13/88	ES	....	0.99	539	1400	....	2.530	....	LT 16.30	2.57
01/20/88	ES	50.60	1.00	434	1330	22.00	2.530	LT 1.16	LT 16.30	2.59
01/28/88	ES	....	1.02	399	1320	....	1.810	....	LT 16.30	1.41
02/03/88	ES	....	1.02	466	1290	....	2.540	....	LT 16.30	2.20
02/10/88	ES	....	0.85	359	1100	....	1.370	....	LT 16.30	1.08
02/17/88	ES	49.20	1.01	452	97	20.90	2.740	LT 1.16	LT 16.30	3.06
02/24/88	RM	46.40	0.85	80	812	27.80	1.950	....	....	LT 0.20
03/02/88	RM	39.40	0.84	200	737	28.00	3.760	....	....	LT 0.20
03/09/88	RM	39.70	0.83	200	800	28.70	2.340	....	....	LT 0.20
03/16/88	RM	41.80	0.91	200	777	28.20	2.440	....	....	LT 0.20
03/23/88	RM	43.90	1.00	200	700	30.40	2.300	....	....	LT 0.20
03/30/88	RM	39.10	0.53	200	700	26.50	2.200	....	....	LT 0.20
04/06/88	RM	40.90	0.77	490	9600	33.00	2.600	....	....	1.80
04/13/88	UB	29.10	0.67	540	1000	22.20	0.191	....	....	0.29
04/20/88	UB	34.70	0.85	340	84	22.90	2.900	....	....	2.00
04/27/88	UB	34.10	0.60	390	740	23.00	2.800	....	....	2.10
05/04/88	UB	32.90	0.66	4000	940	26.70	3.200	....	....	0.73
05/11/88	UB	36.30	0.63	1000	960	25.30	LT 0.050	....	....	LT 0.05
05/18/88	UB	29.20	0.55	610	1700	17.40	2.800	....	....	LT 0.05
05/25/88	UB	29.10	0.55	470	1200	33.00	2.200	....	....	1.30
06/01/88	UB	26.80	0.68	LT 5	940	28.70	1.500	....	....	1.20
06/08/88	UB	26.70	0.66	520	800	29.10	0.960	....	....	0.50
06/15/88	UB	24.60	LT 0.20	400	830	26.10	2.200	....	....	1.20
06/22/88	UB	29.70	0.73	240	980	28.60	2.400	....	....	1.40
06/29/88	UB	14.70	0.30	....	....	LT 1.34	0.513	....	....	0.46
07/06/88	UB	....	....	....	....	....	....	....	....	....
07/13/88	UB	26.00	....	580	....	23.30	2.400	....	....	1.70
07/20/88	UB	23.60	0.91	330	760	23.70	1.000	....	....	0.84
07/27/88	UB	30.50	1.09	550	590	25.80	3.000	....	....	1.70
08/03/88	UB	LT 7.46	0.88	610	950	LT 1.34	2.100	....	....	1.10
08/10/88	UB	....	....	....	....	....	....	....	....	....
08/17/88	UB	46.60	0.92	490	880	22.30	2.800	....	....	2.20
08/24/88	UB	....	....	....	....	....	....	....	....	....
08/31/88	UB	43.00	0.91	460	1000	24.40	3.000	....	....	2.60
09/07/88	UB	56.50	0.63	500	....	25.80	3.200	....	....	2.50
09/14/88	UB	27.10	....	....	1000	24.60	1.600	....	....	0.51
09/21/88	UB	42.80	0.37	650	1200	28.40	1.400	....	....	0.91
09/28/88	UB	....	....	....	....	....	....	....	....	....

LT = LESS THAN The Following Concentration .... INDICATES THAT ANALYSIS WAS NOT PERFORMED

ug/l = MICROGRAM PER LITER mg/l = MILLIGRAM PER LITER

NORTH BOUNDARY TREATMENT PLANT - ADSORBER A FOR FY 88

SAMPLE DATE	ORG	ETC6H5 ug/l	FLUORIDE mg/l	HCCPD ug/l	ISODR ug/l	MEC6H5 ug/l	MIBK ug/l	M-XYLENE ug/l	O,P-XYLENE ug/l	OXAT ug/l
10/07/87	ES	....	3.91	LT 0.083	LT 0.056	....	LT 12.90	....	....	....
10/14/87	ES	....	3.08	LT 0.083	LT 0.056	....	LT 12.90	....	....	....
10/21/87	ES	....	1.26	0.325	LT 0.056	....	LT 12.90	....	....	....
10/28/87	ES	....	2.55	LT 0.083	LT 0.056	....	LT 12.90	....	....	....
11/04/87	ES	LT 0.62	3.36	LT 0.083	LT 0.056	LT 2.10	LT 12.90	LT 1.04	LT 1.34	6.56
11/12/87	ES	....	3.30	0.725	LT 0.056	....	LT 12.90	....	....	....
11/18/87	ES	....	3.83	LT 0.083	LT 0.056	....	LT 12.90	....	....	....
11/25/87	ES	....	....	....	....	....		....	....	....
12/02/87	ES	....	4.45	LT 0.083	LT 0.056	....	LT 12.90	....	....	....
12/09/87	ES	LT 0.62	3.63	LT 0.083	0.087	LT 2.10	LT 12.90	LT 1.04	LT 1.34	3.13
12/16/87	ES	....	3.59	LT 0.083	LT 0.056	....	LT 12.90	....	....	....
12/23/87	ES	....	....	....	....	....		....	....	....
12/30/87	ES	....	....	....	....	....		....	....	....
01/06/88	ES	....	3.55	LT 0.083	LT 0.056	....	LT 12.90	....	....	....
01/13/88	ES	....	3.46	LT 0.083	LT 0.056	....	LT 12.90	....	....	....
01/20/88	ES	LT 0.62	3.71	LT 0.083	LT 0.056	LT 2.10	LT 12.90	LT 1.04	LT 1.34	5.06
01/28/88	ES	....	3.68	LT 0.083	LT 0.056	....	LT 12.90	....	....	....
02/03/88	ES	....	3.48	LT 0.083	LT 0.056	....	LT 12.90	....	....	....
02/10/88	ES	....	3.19	LT 0.083	LT 0.056	....	LT 12.90	....	....	....
02/17/88	ES	1.49	3.55	0.224	LT 0.056	LT 2.10	LT 12.90	LT 1.04	LT 1.34	5.37
02/24/88	RM	....	3.50	....	LT 0.200	8.00		....	....	LT 20.00
03/02/88	RM	....	3.60	....	LT 0.200	30.00		....	....	LT 20.00
03/09/88	RM	....	3.30	....	LT 0.200	40.00		....	....	LT 20.00
03/16/88	RM	....	3.30	....	LT 0.200	40.00		....	....	LT 20.00
03/23/88	RM	....	3.30	....	LT 0.200	50.00		....	....	LT 20.00
03/30/88	RM	....	3.10	....	LT 0.200	30.00		....	....	LT 20.00
04/06/88	RM	....	4.59	....	1.000	....		....	....	4.64
04/13/88	UB	....	4.70	....	LT 0.051	....		....	....	4.69
04/20/88	UB	....	4.35	....	LT 0.051	....		....	....	4.92
04/27/88	UB	....	4.29	....	LT 0.051	....		....	....	6.32
05/04/88	UB	....	6.18	....	0.920	....		....	....	5.45
05/11/88	UB	....	6.74	....	LT 0.051	....		....	....	4.94
05/18/88	UB	....	....	....	LT 0.051	....		....	....	3.51
05/25/88	UB	....	6.46	....	LT 0.051	....		....	....	5.97
06/01/88	UB	....	6.86	....	LT 0.051	....		....	....	5.48
06/08/88	UB	....	6.20	....	LT 0.051	....		....	....	6.60
06/15/88	UB	....	5.75	....	LT 0.051	....		....	....	5.38
06/22/88	UB	....	6.38	....	LT 0.051	....		....	....	6.37
06/29/88	UB	....	7.05	....	LT 0.051	....		....	....	3.02
07/06/88	UB	....	....	....	....	....		....	....	....
07/13/88	UB	....	....	....	LT 0.051	....		....	....	5.36
07/20/88	UB	....	5.28	....	LT 0.051	....		....	....	5.67
07/27/88	UB	....	5.34	....	0.260	....		....	....	5.89
08/03/88	UB	....	5.71	....	LT 0.051	....		....	....	LT 2.38
08/10/88	UB	....	....	....	....	....		....	....	....
08/17/88	UB	....	4.96	....	LT 0.051	....		....	....	5.45
08/24/88	UB	....	5.84	....	....	....		....	....	5.72
08/31/88	UB	....	....	....	LT 0.051	....		....	....	....
09/07/88	UB	....	5.47	....	LT 0.051	....		....	....	5.69
09/14/88	UB	....	6.79	....	LT 0.051	....		....	....	LT 2.38
09/21/88	UB	....	8.52	....	LT 0.051	....		....	....	5.79
09/28/88	UB	....	....	....	....	....		....	....	....

LT = LESS THAN The Following Concentration .... INDICATES THAT ANALYSIS WAS NOT PERFORMED

ug/l = MICROGRAM PER LITER mg/l = MILLIGRAM PER LITER

NORTH BOUNDARY TREATMENT PLANT - ADSORBER A FOR FY 88

SAMPLE DATE	ORG	PPDDE ug/l	PPDDT ug/l	SO4 mg/l	T12DCE ug/l	TCLEE ug/l	TRCLE ug/l
10/07/87	ES	LT 0.046	LT 0.059	358	....	....	....
10/14/87	ES	LT 0.046	0.410	434	....	....	....
10/21/87	ES	LT 0.046	0.387	451	....	....	....
10/28/87	ES	LT 0.046	0.153	340	....	....	....
11/04/87	ES	LT 0.046	0.180	385	LT 1.80	3.70	LT 1.30
11/12/87	ES	LT 0.046	0.391	348	....	....	....
11/18/87	ES	LT 0.046	LT 0.059	390	....	....	....
11/25/87	ES	....	....	....	....	....	....
12/02/87	ES	LT 0.046	0.255	469	....	....	....
12/09/87	ES	LT 0.046	LT 0.059	453	LT 1.80	LT 2.80	2.60
12/16/87	ES	LT 0.046	LT 0.059	428	....	....	....
12/23/87	ES	....	....	....	....	....	....
12/30/87	ES	....	....	....	....	....	....
01/06/88	ES	LT 0.046	0.418	422	....	....	....
01/13/88	ES	LT 0.046	LT 0.059	422	....	....	....
01/20/88	ES	LT 0.046	0.357	433	LT 1.80	40.00	4.70
01/28/88	ES	LT 0.046	LT 0.059	418	....	....	....
02/03/88	ES	LT 0.046	LT 0.059	450	....	....	....
02/10/88	ES	LT 0.046	0.159	411	....	....	....
02/17/88	ES	LT 0.046	0.388	467	LT 1.80	47.00	5.80
02/24/88	RM	....	....	....	....	6.00	1.00
03/02/88	RM	....	....	....	....	100.00	2.00
03/09/88	RM	....	....	....	....	100.00	2.00
03/16/88	RM	....	....	....	....	100.00	2.00
03/23/88	RM	....	....	....	....	200.00	3.00
03/30/88	RM	....	....	....	....	100.00	2.00
04/06/88	RM	....	....	....	....	....	4.35
04/13/88	UB	....	....	....	....	....	4.79
04/20/88	UB	....	....	....	....	....	3.10
04/27/88	UB	....	....	....	....	....	2.08
05/04/88	UB	....	....	....	....	....	6.44
05/11/88	UB	....	....	....	....	....	5.36
05/18/88	UB	....	....	....	....	....	4.75
05/25/88	UB	....	....	....	....	....	LT 0.56
06/01/88	UB	....	....	....	....	....	3.93
06/08/88	UB	....	....	....	....	....	5.07
06/15/88	UB	....	....	....	....	....	4.46
06/22/88	UB	....	....	....	....	....	1.34
06/29/88	UB	....	....	....	....	....	2.56
07/06/88	UB	....	....	....	....	....	....
07/13/88	UB	....	....	....	....	....	....
07/20/88	UB	....	....	....	....	....	4.85
07/27/88	UB	....	....	....	....	....	3.42
08/03/88	UB	....	....	....	....	....	6.62
08/10/88	UB	....	....	....	....	....	4.99
08/17/88	UB	....	....	....	....	....	....
08/24/88	UB	....	....	....	....	....	....
08/31/88	UB	....	....	....	....	....	4.32
09/07/88	UB	....	....	....	....	....	6.21
09/14/88	UB	....	....	....	....	....	6.24
09/21/88	UB	....	....	....	....	....	....
09/28/88	UB	....	....	....	....	....	....

LT = LESS THAN The Following Concentration .... INDICATES THAT ANALYSIS WAS NOT PERFORMED

NORTH BOUNDARY TREATMENT PLANT - ADSORBER B FOR FY 88

SAMPLE DATE	ORG	111TCE ug/l	112TCE ug/l	11DCE ug/l	11DCLE ug/l	12DCE ug/l	12DCLE ug/l	ALDRN ug/l	AS ug/l	BTZ ug/l
10/07/87	ES	LT 1.09	....	....	....	....	....	LT 0.083	....	....
10/14/87	ES	....	....	....	....	....	....	LT 0.083	....	....
10/21/87	ES	....	....	....	....	....	....	LT 0.083	....	....
10/28/87	ES	....	....	....	....	....	....	LT 0.083	....	....
11/04/87	ES	....	LT 1.63	LT 1.85	LT 1.93	....	LT 2.07	LT 0.083	LT 2.52	LT 1.10
11/12/87	ES	....	....	....	....	....	....	LT 0.083	....	....
11/18/87	ES	....	....	....	....	....	....	LT 0.083	....	....
11/25/87	ES	....	....	....	....	....	....	....	....	....
12/02/87	ES	....	....	....	....	....	....	LT 0.083	....	....
12/09/87	ES	LT 1.09	LT 1.63	LT 1.85	LT 1.93	....	LT 2.07	LT 0.083	LT 2.52	LT 1.10
12/16/87	ES	....	....	....	....	....	....	LT 0.083	....	....
12/23/87	ES	....	....	....	....	....	....	....	....	....
12/30/87	ES	....	....	....	....	....	....	....	....	....
01/06/88	ES	....	....	....	....	....	....	LT 0.083	....	....
01/13/88	ES	....	....	....	....	....	....	LT 0.083	....	....
01/20/88	ES	LT 1.09	LT 1.63	LT 1.85	LT 1.93	....	LT 2.07	LT 0.083	LT 2.52	LT 1.10
01/27/88	ES	....	....	....	....	....	....	LT 0.083	....	....
02/03/88	ES	....	....	....	....	....	....	LT 0.083	....	....
02/10/88	ES	....	....	....	....	....	....	LT 0.083	....	....
02/17/88	ES	LT 1.09	LT 1.63	LT 1.85	LT 1.93	....	LT 2.07	LT 0.083	LT 2.52	LT 1.10
02/24/88	RM	....	....	....	....	LT 1.00	LT 1.00	LT 0.200	....	....
03/02/88	RM	....	....	....	....	LT 1.00	LT 1.00	LT 0.200	....	....
03/09/88	RM	....	....	....	....	LT 1.00	LT 1.00	LT 0.200	....	....
03/16/88	RM	....	....	....	....	LT 1.00	LT 1.00	LT 0.200	....	....
03/23/88	RM	....	....	....	....	LT 1.00	LT 1.00	LT 0.200	....	....
03/30/88	RM	....	....	....	....	LT 1.00	LT 1.00	LT 0.200	....	....
04/06/88	RM	....	....	....	....	....	....	0.360	....	....
04/13/88	UB	....	....	....	....	....	....	LT 0.050	....	....
04/20/88	UB	....	....	....	....	....	....	LT 0.050	....	....
04/27/88	UB	....	....	....	....	....	....	0.062	....	....
05/04/88	UB	....	....	....	....	....	....	LT 0.050	....	....
05/11/88	UB	....	....	....	....	....	....	LT 0.050	....	....
05/18/88	UB	....	....	....	....	....	....	LT 0.050	....	....
05/25/88	UB	....	....	....	....	....	....	LT 0.050	....	....
06/01/88	UB	....	....	....	....	....	....	LT 0.050	....	....
06/08/88	UB	....	....	....	....	....	....	LT 0.050	....	....
06/15/88	UB	....	....	....	....	...	....	0.137	....	....
06/22/88	UB	....	....	....	....	....	....	0.066	....	....
06/29/88	UB	....	....	....	....	....	....	0.209	....	....
07/06/88	UB	....	....	....	....	....	....	....	....	....
07/13/88	UB	....	....	....	....	....	....	LT 0.050	....	....
07/20/88	UB	....	....	....	....	....	....	LT 0.050	....	....
07/27/88	UB	....	....	....	....	....	....	LT 0.050	....	....
08/03/88	UB	....	....	....	....	....	....	LT 0.050	....	....
08/10/88	UB	....	....	....	....	....	....	....	....	....
08/17/88	UB	....	....	....	....	....	....	LT 0.050	....	....
08/24/88	UB	....	....	....	....	....	....	....	....	....
08/31/88	UB	....	....	....	....	....	....	LT 0.050	....	....
09/07/88	UB	....	....	....	....	....	....	LT 0.050	....	....
09/14/88	UB	....	....	....	....	....	....	LT 0.050	....	....
09/21/88	UB	....	....	....	....	....	....	LT 0.050	....	....
09/28/88	UB	....	....	....	....	....	....	....	....	....

LT = LESS THAN The Following Concentration .... INDICATES THAT ANALYSIS WAS NOT PERFORMED

ug/l = MICROGRAM PER LITER mg/l = MILLIGRAM PER LITER

NORTH BOUNDARY TREATMENT PLANT - ADSORBER B FOR FY 88

SAMPLE DATE	ORG	C6H6 ug/l	CCL4 ug/l	CH2CL2 ug/l	CHCL3 ug/l	CHLORIDE mg/l	CLC6H5 ug/l	CLDAN ug/l	CPMS ug/l	CPMSO ug/l
10/07/87	ES	....	....	....	....	103	....	LT 0.152	....	....
10/14/87	ES	....	....	....	....	141	....	LT 0.152	....	....
10/21/87	ES	....	....	....	....	129	....	LT 0.152	....	....
10/28/87	ES	....	....	....	....	123	....	LT 0.152	....	....
11/04/87	ES	LT 1.92	LT 1.69	LT 2.48	22.2	126	LT 1.36	LT 0.152	4.09	18.50
11/12/87	ES	....	....	....	....	130	....	LT 0.152	....	....
11/18/87	ES	....	....	....	....	134	....	LT 0.152	....	....
11/25/87	ES	....	....	....	....	....	....	....	....	....
12/02/87	ES	....	....	....	....	244	....	LT 0.152	....	....
12/09/87	ES	LT 1.92	LT 1.69	LT 2.48	19.2	125	LT 1.36	LT 0.152	1.63	8.60
12/16/87	ES	....	....	....	....	144	....	LT 0.152	....	....
12/23/87	ES	....	....	....	....	....	....	....	....	....
12/30/87	ES	....	....	....	....	....	....	....	....	....
01/06/88	ES	....	....	....	....	144	....	LT 0.152	....	....
01/13/88	ES	....	....	....	....	127	....	LT 0.152	....	....
01/20/88	ES	LT 1.92	LT 1.69	LT 2.48	19.6	131	LT 1.36	LT 0.152	3.36	19.20
01/27/88	ES	....	....	....	....	131	....	LT 0.152	....	....
02/03/88	ES	....	....	....	.. .	142	....	LT 0.152	....	....
02/10/88	ES	....	....	....	. ..	143	....	LT 0.152	....	....
02/17/88	ES	LT 1.92	LT 1.69	LT 2.48	19.8	136	LT 1.36	LT 0.152	3.10	15.00
02/24/88	RM	....	LT 1.00	....	30	161	....	....	LT 20.00	LT 20.00
03/02/88	RM	....	LT 1.00	....	30	156	....	....	LT 20.00	LT 20.00
03/09/88	RM	....	LT 1.00	....	30	200	....	....	LT 20.00	LT 20.00
03/16/88	RM	....	LT 1.00	....	30	200	....	....	LT 20.00	LT 20.00
03/23/88	RM	....	LT 1.00	....	30	....	....	....	LT 20.00	LT 20.00
03/30/88	RM	....	LT 1.00	....	30	100	....	....	LT 20.00	LT 20.00
04/06/88	RM	....	....	....	....	140	....	....	LT 5.69	17.20
04/13/88	UB	....	....	....	....	150	....	....	LT 5.69	14.00
04/20/88	UB	....	....	....	....	100	....	....	LT 5.69	16.80
04/27/88	UB	....	....	....	....	120	....	....	6.52	LT 11.50
05/04/88	UB	....	....	....	....	....	....	....	LT 5.69	15.20
05/11/88	UB	....	....	....	....	140	....	....	LT 5.69	21.00
05/18/88	UB	....	....	....	....	150	....	....	LT 5.69	16.20
05/25/88	UB	....	....	....	....	120	....	....	LT 5.69	12.90
06/01/88	UB	....	....	....	....	140	....	....	LT 5.69	15.50
06/08/88	UB	....	....	....	....	130	....	....	LT 5.69	13.10
06/15/88	UB	....	....	....	....	930	....	....	LT 5.69	11.90
06/22/88	UB	....	....	....	....	160	....	....	LT 5.69	20.90
06/29/88	UB	....	....	....	....	100	....	....	LT 5.69	LT 11.50
07/06/88	UB	....	....	....	....	....	....	....	....	....
07/13/88	UB	....	....	....	....	....	....	....	LT 5.69	16.70
07/20/88	UB	....	....	....	....	100	....	....	LT 5.69	12.60
07/27/88	UB	....	....	....	....	150	....	....	LT 5.69	13.70
08/03/88	UB	....	....	....	....	110	....	....	LT 5.69	33.70
08/10/88	UB	....	....	....	....	....	....	....	LT 5.69	....
08/17/88	UB	....	....	....	....	120	....	....	....	LT 11.50
08/24/88	UB	....	....	....	....	....	....	....	....	....
08/31/88	UB	....	....	....	....	110	....	....	LT 5.69	16.80
09/07/88	UB	....	....	....	....	120	....	....	LT 5.69	16.60
09/14/88	UB	....	....	....	....	120	....	....	LT 5.69	LT 11.50
09/21/88	UB	....	....	....	....	140	....	....	LT 5.69	21.30
09/28/88	UB	....	....	....	....	....	....	....	....	....

LT = LESS THAN The Following Concentration .... INDICATES THAT ANALYSIS WAS NOT PERFORMED

ug/l = MICROGRAM PER LITER mg/l = MILLIGRAM PER LITER

NORTH BOUNDARY TREATMENT PLANT - ADSORBER B FOR FY 88

SAMPLE DATE	ORG	CPMSO2 ug/l	D8CP ug/l	DCPD ug/l	DIMP ug/l	DITH ug/l	DLDRN ug/l	DMDS ug/l	DMMP ug/l	ENDRN ug/l
10/07/87	ES	....	0.816	12.40	152	....	0.80	....	LT 16.30	0.61
10/14/87	ES	....	0.849	LT 9.31	150	....	0.89	....	LT 16.30	0.20
10/21/87	ES	....	0.826	10.30	152	....	0.89	....	LT 16.30	0.64
10/28/87	ES	....	0.859	11.60	147	....	0.90	....	LT 16.30	0.64
11/04/87	ES	5.19	0.791	11.40	151	LT 3.34	0.88	LT 1.16	LT 16.30	0.62
11/12/87	ES	....	0.878	13.70	151	....	1.00	....	LT 16.30	1.03
11/18/87	ES	....	0.838	15.80	150	....	0.93	..	LT 16.30	0.58
11/25/87	ES	....	....	....	....	....	....	....	....	....
12/02/87	ES	....	0.771	18.00	140	....	0.85	....	LT 16.30	0.65
12/09/87	ES	LT 2.24	0.586	LT 9.31	105	LT 3.34	0.42	LT 1.16	LT 16.30	0.36
12/16/87	ES	....	0.870	20.50	166	....	0.82	....	LT 16.30	0.59
12/23/87	ES	....	....	....	....	....	....	....	....	....
12/30/87	ES	....	....	....	....	....	....	....	....	....
01/06/88	ES	....	0.716	16.70	155	....	0.76	....	LT 16.30	0.74
01/13/88	ES	....	0.768	16.80	153	....	0.59	....	LT 16.30	0.51
01/20/88	ES	4.95	0.833	16.90	142	LT 3.34	0.62	LT 1.16	LT 16.30	0.61
01/28/88	ES	....	0.847	15.30	157	...	0.78	....	LT 16.30	0.70
02/03/88	ES	....	0.856	15.80	145	....	0.57	....	LT 16.30	0.68
02/10/88	ES	....	0.904	17.50	156	....	0.87	....	LT 16.30	0.69
02/17/88	ES	3.99	0.871	17.20	155	LT 3.34	0.84	LT 1.16	LT 16.30	0.86
02/24/88	RM	LT 20.00	0.930	10.00	102	LT 20.00	1.31	....	....	0.90
03/02/88	RM	LT 20.00	0.900	20.00	89	LT 20.00	1.29	....	....	0.59
03/09/88	RM	LT 20.00	0.790	20.00	90	LT 20.00	1.00	....	....	0.75
03/16/88	RM	LT 20.00	0.920	30.00	84	LT 20.00	0.76	....	....	LT 0.20
03/23/88	RM	LT 20.00	0.950	20.00	80	LT 20.00	1.05	....	....	0.75
03/30/88	RM	LT 20.00	0.480	20.00	90	LT 20.00	0.71	....	....	0.46
04/06/88	RM	LT 7.46	LT 0.195	24.00	101	LT 1.34	0.77	....	....	0.64
04/13/88	UB	LT 7.46	0.577	19.80	95	LT 1.34	0.79	....	....	8.20
04/22/88	UB	LT 7.46	0.446	LT 5.00	98	LT 1.34	0.71	....	....	0.62
04/27/88	UB	LT 7.46	0.508	14.30	68	LT 1.34	1.20	....	....	0.98
05/04/88	UB	LT 7.46	0.548	12.10	73	LT 1.34	0.85	....	....	0.67
05/11/88	UB	18.60	0.529	36.50	82	LT 1.34	0.77	....	....	0.76
05/18/88	UB	LT 7.46	0.514	22.50	120	LT 1.34	0.74	....	....	LT 0.05
05/25/88	UB	LT 7.46	0.438	18.20	140	LT 1.34	LT 0.05	....	....	LT 0.05
06/01/88	UB	LT 7.46	0.587	16.80	99	LT 1.34	0.49	....	....	0.52
06/08/88	UB	LT 7.46	0.726	17.60	96	LT 1.34	0.26	....	....	0.09
06/15/88	UB	LT 7.46	0.553	LT 5.00	88	3.42	0.44	....	....	0.41
06/22/88	UB	LT 7.46	0.703	....	99	LT 1.34	0.50	....	....	0.38
06/29/88	UB	LT 7.46	0.385	LT 5.00	....	LT 1.34	0.42	....	....	0.47
07/06/88	UB	....	....	....	....	....	....	....	....	....
07/13/88	UB	LT 7.46	....	20.00	....	LT 1.34	0.63	....	....	0.64
07/20/88	UB	LT 7.46	0.449	LT 5.00	79	LT 1.34	0.55	....	....	0.56
07/27/88	UB	LT 7.46	0.651	13.00	1000	LT 1.34	0.65	....	....	0.77
08/03/88	UB	43.80	0.568	14.10	99	27.10	0.88	....	....	0.71
08/10/88	UB	....	....	....	97	....	....	....	....	LT 0.05
08/17/88	UB	LT 7.46	0.646	12.80	....	LT 1.34	0.81	....	....	....
08/24/88	UB	....	....	....	....	LT 1.34	....	....	....	....
08/31/88	UB	LT 7.46	0.601	9.95	99	LT 1.34	0.78	....	....	0.79
09/07/88	UB	LT 7.46	0.618	9.93	....	LT 1.34	0.83	....	....	0.77
09/14/88	UB	LT 7.46	0.510	10.10	85	LT 1.34	0.55	....	....	0.45
09/21/88	UB	LT 7.46	....	....	140	....	0.77	....	....	0.62
09/28/88	UB	....	....	....	....	....	....	....	....	....

LT = LESS THAN The Following Concentration .... INDICATES THAT ANALYSIS WAS NOT PERFORMED

ug/l = MICROGRAM PER LITER mg/l = MILLIGRAM PER LITER

NORTH BOUNDARY TREATMENT PLANT - ADSORBER 8 FOR FY 88

SAMPLE DATE	ORG	ETC6H5 ug/l	FLUORIDE mg/l	HCCPD ug/l	ISODR ug/l	MEC6H5 ug/l	MIBK ug/l	M-XYLENE ug/l	O,P-XYLENE ug/l	OXAT ug/l
10/07/87	ES	....	2.84	LT 0.083	LT 0.056	....	LT 12.90	....	....	....
10/14/87	ES	...	2.12	LT 0.083	LT 0.056	....	LT 12.90	....	....	....
10/21/87	ES	....	2.06	LT 0.083	LT 0.056	....	LT 12.90	....	....	....
10/28/87	ES	....	2.22	LT 0.083	LT 0.056	....	LT 12.90	....	....	....
11/04/87	ES	LT 0.62	2.18	LT 0.083	LT 0.056	LT 2.10	LT 12.90	LT 1.04	LT 1.34	LT 1.35
11/12/87	ES	....	2.02	LT 0.083	LT 0.056	....	LT 12.90	....	....	....
11/18/87	ES	....	2.70	LT 0.083	LT 0.056	....	LT 12.90	....	....	....
11/25/87	ES	....	....	....	....	....	...	....	....	....
12/02/87	ES	....	3.16	LT 0.083	LT 0.056	....	LT 12.90	....	....	....
12/09/87	ES	LT 0.62	2.85	LT 0.083	LT 0.056	LT 2.10	LT 12.90	LT 1.04	LT 1.34	LT 1.35
12/16/87	ES	....	2.69	LT 0.083	LT 0.056	....	LT 12.90	....	....	....
12/23/87	ES	....	....	....	....	....	....	....	....	....
12/30/87	ES	....	....	....	....	....	....	....	....	....
01/06/88	ES	....	2.48	LT 0.083	LT 0.056	....	LT 12.90	....	....	....
01/13/88	ES	....	2.32	LT 0.083	LT 0.056	....	LT 12.90	....	....	....
01/20/88	ES	LT 0.62	2.38	LT 0.083	LT 0.056	LT 2.10	LT 12.90	LT 1.04	LT 1.34	LT 1.35
01/28/88	ES	....	2.61	LT 0.083	LT 0.056	....	LT 12.90	....	....	....
02/03/88	ES	....	2.42	LT 0.083	LT 0.056	....	LT 12.90	....	....	....
02/10/88	ES	....	2.33	LT 0.083	LT 0.056	....	LT 12.90	....	....	....
02/17/88	ES	LT 0.62	2.21	LT 0.083	LT 0.056	LT 2.10	LT 12.90	LT 1.04	LT 1.34	LT 1.35
02/24/88	RM	....	3.00	....	LT 0.200	2.00	....	....	....	LT 20.00
03/02/88	RM	....	3.00	....	LT 0.200	4.00	....	....	....	LT 20.00
03/09/88	RM	....	2.30	....	LT 0.200	LT 1.00	....	....	....	LT 20.00
03/16/88	RM	....	2.90	....	LT 0.200	4.00	....	....	....	LT 20.00
03/23/88	RM	....	2.70	....	LT 0.200	LT 1.00	....	....	....	LT 20.00
03/30/88	RM	....	2.90	....	LT 0.200	3.00	....	....	....	LT 20.00
04/06/88	RM	....	3.96	....	LT 0.051	....	....	....	....	LT 2.38
04/13/88	UB	....	3.20	....	LT 0.051	....	....	....	....	LT 2.38
04/22/88	UB	....	3.46	....	LT 0.051	....	....	....	....	LT 2.38
04/27/88	UB	....	3.74	....	LT 0.051	....	....	....	....	LT 2.38
05/04/88	UB	....	....	....	LT 0.051	....	....	....	....	LT 2.38
05/11/88	UB	....	3.78	....	LT 0.051	....	....	....	....	LT 2.38
05/18/88	UB	....	3.52	....	LT 0.051	....	....	....	....	LT 2.38
05/25/88	UB	....	3.40	....	LT 0.051	....	....	....	....	LT 2.38
06/01/88	UB	....	3.53	....	LT 0.051	....	....	....	....	LT 2.38
06/08/88	UB	....	4.10	....	LT 0.051	....	....	....	....	LT 2.38
06/15/88	UB	....	3.89	....	LT 0.051	....	....	....	....	LT 2.38
06/22/88	UB	....	3.43	....	LT 0.051	....	....	....	....	LT 2.38
06/29/88	UB	....	3.74	....	LT 0.051	....	....	....	....	LT 2.38
07/06/88	UB	....	....	....	....	....	....	....	....	....
07/13/88	UB	....	....	....	LT 0.051	....	....	....	....	LT 2.38
07/20/88	UB	....	3.54	....	LT 0.051	....	....	....	....	LT 2.38
07/27/88	UB	....	3.11	....	LT 0.051	....	....	....	....	LT 2.38
08/03/88	UB	....	3.57	....	LT 0.051	....	....	....	....	6.91
08/10/88	UB	....	3.43	....	....	....	....	....	....	LT 2.38
08/17/88	UB	....	....	....	LT 0.051	....	....	....	....	....
08/24/88	UB	....	....	....	....	....	....	....	....	....
08/31/88	UB	....	3.76	....	LT 0.051	....	....	....	....	LT 2.38
09/07/88	UB	....	3.97	....	LT 0.051	....	....	....	....	LT 2.38
09/14/88	UB	....	3.75	....	LT 0.051	....	....	....	....	LT 2.38
09/21/88	UB	....	3.92	....	LT 0.051	....	....	....	....	LT 2.38
09/28/88	UB	....	....	....	....	....	....	....	....	....

LT = LESS THAN The Following Concentration .... INDICATES THAT ANALYSIS WAS NOT PERFORMED

ug/l = MICROGRAM PER LITER mg/l = MILLIGRAM PER LITER

NORTH BOUNDARY TREATMENT PLANT - ADSORBER B FOR FY 88

SAMPLE DATE	ORG	PPDDE ug/l	PPDDT ug/l	SO4 mg/l	T12DCE ug/l	TCLEE ug/l	TRCLE ug/l
10/07/87	ES	LT 0.046	LT 0.059	384	....	....	....
10/14/87	ES	LT 0.046	LT 0.059	475	....	....	....
10/21/87	ES	LT 0.046	LT 0.059	485	....	....	....
10/28/87	ES	LT 0.046	LT 0.059	433	....	....	....
11/04/87	ES	LT 0.046	LT 0.059	467	LT 1.80	12.00	LT 1.30
11/12/87	ES	LT 0.046	LT 0.059	425	....	....	....
11/18/87	ES	LT 0.046	LT 0.059	482	....	....	....
11/25/87	ES	....	....	....	....	....	....
12/02/87	ES	LT 0.046	LT 0.059	738	....	....	....
12/09/87	ES	LT 0.046	LT 0.059	558	LT 1.80	4.40	LT 1.30
12/16/87	ES	LT 0.046	LT 0.059	501	....	....	....
12/23/87	ES	....	....	....	....	....	....
12/30/87	ES	....	....	....	....	....	....
01/06/88	ES	LT 0.046	LT 0.059	467	....	....	....
01/13/88	ES	LT 0.046	LT 0.059	424	....	....	....
01/20/88	ES	LT 0.046	LT 0.059	455	LT 1.80	10.00	LT 1.30
01/28/88	ES	LT 0.046	LT 0.059	470	....	....	....
02/03/88	ES	LT 0.046	LT 0.059	504	....	....	....
02/10/88	ES	LT 0.046	LT 0.059	481	....	....	....
02/17/88	ES	LT 0.046	LT 0.059	468	LT 1.80	12.00	LT 1.30
02/24/88	RM	....	....	....	....	20.00	LT 1.00
03/02/88	RM	....	....	....	....	20.00	LT 1.00
03/09/88	RM	....	....	....	....	5.00	LT 1.00
03/16/88	RM	....	....	....	....	20.00	LT 1.00
03/23/88	RM	....	....	....	....	10.00	LT 1.00
03/30/88	RM	....	....	....	....	20.00	LT 1.00
04/06/88	RM	....	....	....	....	....	LT 0.56
04/13/88	UB	....	....	....	....	....	LT 0.56
04/22/88	UB	....	....	....	....	....	LT 0.56
04/27/88	UB	....	....	....	....	....	LT 0.56
05/04/88	UB	....	....	....	....	....	LT 0.56
05/11/88	UB	....	....	....	....	....	LT 0.56
05/18/88	UB	....	....	....	....	....	LT 0.56
05/25/88	UB	....	....	....	....	....	LT 0.56
06/01/88	UB	....	....	....	....	....	LT 0.56
06/08/88	UB	....	....	....	....	....	LT 0.56
06/15/88	UB	....	....	....	....	....	LT 0.56
06/22/88	UB	....	....	....	....	....	2.09
06/29/88	UB	....	....	....	....	....	LT 0.56
07/06/88	UB	....	....	....	....	....	....
07/13/88	UB	....	....	....	....	....	....
07/20/88	UB	....	....	....	....	....	LT 0.56
07/27/88	UB	....	....	....	....	....	LT 0.56
08/03/88	UB	....	....	....	....	....	LT 0.56
08/10/88	UB	....	....	....	....	....	1.09
08/17/88	UB	....	....	....	....	....	....
08/24/88	UB	....	....	....	....	....	....
08/31/88	UB	....	....	....	....	....	LT 0.56
09/07/88	UB	....	....	....	....	....	0.74
09/14/88	UB	....	....	....	....	....	LT 0.56
09/21/88	UB	....	....	....	....	....	....
09/28/88	UB	....	....	....	....	....	....

LT = LESS THAN The Following Concentration .... INDICATES THAT ANALYSIS WAS NOT PERFORMED

NORTH BOUNDARY TREATMENT PLANT - ADSORBER C FOR FY 88

SAMPLE DATE	ORG	111TCE ug/l	112TCE ug/l	11DCE ug/l	11DCLE ug/l	12DCE ug/l	12DCLE ug/l	ALDRN ug/l	AS ug/l	BTZ ug/l
10/07/87	ES	....	....	....	....	....	....	LT 0.083	....	....
10/14/87	ES	....	....	....	....	....	....	LT 0.083	....	....
10/21/87	ES	....	....	....	....	....	....	LT 0.083	....	....
10/28/87	ES	....	....	....	....	....	....	LT 0.083	....	....
11/04/87	ES	LT 1.09	LT 1.63	LT 1.85	LT 1.93	....	LT 2.07	LT 0.083	LT 2.52	LT 1.10
11/12/87	ES	....	....	....	....	....	....	LT 0.083	....	....
11/18/87	ES	....	....	....	....	....	....	LT 0.083	....	....
11/25/87	ES	....	....	....	....	....	....	....	....	....
12/02/87	ES	....	....	....	....	....	....	LT 0.083	....	....
12/09/87	ES	LT 1.09	LT 1.63	LT 1.85	LT 1.93	....	LT 2.07	LT 0.083	LT 2.52	LT 1.10
12/16/87	ES	....	....	....	....	....	....	LT 0.083	....	....
12/23/87	ES	....	....	....	....	....	....	....	....	....
12/30/87	ES	....	....	....	....	....	....	....	....	....
01/06/88	ES	....	....	....	....	....	....	LT 0.083	....	....
01/13/88	ES	....	....	....	....	....	....	LT 0.083	....	....
01/20/88	ES	LT 1.09	LT 1.63	LT 1.85	LT 1.93	....	LT 2.07	LT 0.083	LT 2.52	LT 1.10
01/28/88	ES	....	....	....	....	....	....	LT 0.083	....	....
02/03/88	ES	....	....	....	....	....	....	LT 0.083	....	....
02/10/88	ES	....	....	....	....	....	....	LT 0.083	....	....
02/17/88	ES	LT 1.09	LT 1.63	LT 1.85	LT 1.93	....	LT 2.07	LT 0.083	LT 2.52	LT 1.10
02/24/88	RM	....	....	....	....	LT 1.00	LT 1.00	LT 0.200	....	....
03/02/88	RM	....	....	....	....	LT 1.00	....	....	....	....
03/09/88	RM	....	....	....	....	LT 1.00	LT 1.00	LT 0.200	....	....
03/16/88	RM	....	....	....	....	LT 1.00	LT 1.00	LT 0.200	....	....
03/23/88	RM	....	....	....	....	LT 1.00	LT 1.00	LT 0.200	....	....
03/30/88	RM	....	....	....	....	....	LT 1.00	LT 0.200	....	....
04/06/88	RM	....	....	....	....	....	....	LT 0.050	....	....
04/13/88	UB	....	....	....	....	....	....	LT 0.050	....	....
04/20/88	UB	....	....	....	....	....	....	LT 0.050	....	....
04/27/88	UB	....	....	....	....	....	....	LT 0.050	....	....
05/04/88	UB	....	....	....	....	....	....	LT 0.050	....	....
05/11/88	UB	....	....	....	....	....	....	LT 0.050	....	....
05/18/88	UB	....	....	....	....	....	....	LT 0.050	....	....
05/25/88	UB	....	....	....	....	....	....	LT 0.050	....	....
06/01/88	UB	....	....	....	....	....	....	0.072	....	....
06/08/88	UB	....	....	....	....	....	....	LT 0.050	....	....
06/15/88	UB	....	....	....	....	....	....	LT 0.050	....	....
06/22/88	UB	....	....	....	....	....	....	LT 0.050	....	....
06/29/88	UB	....	....	....	....	....	....	LT 0.050	....	....
07/06/88	UB	....	....	....	....	....	....	LT 0.050	....	....
07/13/88	UB	....	....	....	....	....	....	LT 0.050	....	....
07/20/88	UB	....	....	....	....	....	....	....	....	....
07/27/88	UB	....	....	....	....	....	....	LT 0.050	....	....
08/03/88	UB	....	....	....	....	....	....	LT 0.050	....	....
08/10/88	UB	....	....	....	....	....	....	....	....	....
08/17/88	UB	....	....	....	....	....	....	LT 0.050	....	....
08/24/88	UB	....	....	....	....	....	....	....	....	....
08/31/88	UB	....	....	....	....	....	....	LT 0.050	....	....
09/07/88	UB	....	....	....	....	....	....	LT 0.050	....	....
09/14/88	UB	....	....	....	....	....	....	LT 0.050	....	....
09/21/88	UB	....	....	....	....	....	....	LT 0.050	....	....
09/28/88	UB	....	....	....	....	....	....	....	....	....

LT = LESS THAN The Following Concentration .... INDICATES THAT ANALYSIS WAS NOT PERFORMED

ug/l = MICROGRAM PER LITER mg/l = MILLIGRAM PER LITER

NORTH BOUNDARY TREATMENT PLANT - ADSORBER C FOR FY 88

SAMPLE DATE	ORG	C6H6 ug/l	CCL4 ug/l	CH2CL2 ug/l	CHCL3 ug/l	CHLORIDE mg/l	CLC6H5 ug/l	CLDAN ug/l	CPMS ug/l	CPMSO ug/l
10/07/87	ES	....	....	....	....	107	....	LT 0.152	....	....
10/14/87	ES	....	....	....	....	115	....	LT 0.152	....	....
10/21/87	ES	....	....	....	....	108	....	LT 0.152	....	....
10/28/87	ES	....	....	....	....	979	....	LT 0.152	....	....
11/04/87	ES	LT 1.92	3.51	LT 2.48	LT 1.88	102	LT 1.36	LT 0.152	LT 1.08	LT 1.98
11/12/87	ES	....	....	....	....	105	....	LT 0.152	....	....
11/18/87	ES	....	....	....	....	108	....	LT 0.152	....	....
11/25/87	ES	....	....	....	....	....	....	....	....	....
12/02/87	ES	....	....	....	....	124	....	LT 0.152	....	....
12/09/87	ES	LT 1.92	3.60	LT 2.48	LT 1.88	139	LT 1.36	LT 0.152	LT 1.08	LT 1.98
12/16/87	ES	....	....	....	....	110	....	LT 0.152	....	....
12/23/87	ES	....	....	....	....	....	....	....	....	....
12/30/87	ES	....	....	....	....	....	....	....	....	....
01/06/88	ES	....	....	....	....	113	....	LT 0.152	....	....
01/13/88	ES	....	....	....	....	104	....	LT 0.152	....	....
01/20/88	ES	LT 1.92	3.78	LT 2.48	LT 1.88	104	LT 1.36	LT 0.152	LT 1.08	LT 1.98
01/28/88	ES	....	....	....	....	104	....	LT 0.152	....	....
02/03/88	ES	....	....	....	....	113	....	LT 0.152	....	....
02/10/88	ES	....	....	....	....	109	....	LT 0.152	....	....
02/17/88	ES	LT 1.92	5.07	LT 2.48	LT 1.88	105	LT 1.36	LT 0.152	LT 1.08	LT 1.98
02/24/88	RM	....	LT 1.00	....	30.00	130	....	....	LT 20.00	LT 20.00
03/02/88	RM	....	....	....	....	....	....	....	....	....
03/09/88	RM	....	LT 1.00	....	10.00	100	....	....	LT 20.00	LT 20.00
03/16/88	RM	....	LT 1.00	....	10.00	100	....	....	LT 20.00	LT 20.00
03/23/88	RM	....	LT 1.00	....	10.00	100	....	....	LT 20.00	LT 20.00
03/30/88	RM	....	LT 1.00	....	10.00	110	....	....	LT 20.00	LT 20.00
04/06/88	RM	....	....	....	....	130	....	....	LT 5.69	LT 11.50
04/13/88	UB	....	....	....	....	....	....	....	LT 5.69	LT 11.50
04/20/88	UB	....	....	....	....	100	....	....	LT 5.69	LT 11.50
04/27/88	UB	....	....	....	....	110	....	....	LT 5.69	LT 11.50
05/04/88	UB	....	....	....	....	....	....	....	LT 5.69	LT 11.50
05/11/88	UB	....	....	....	....	120	....	....	LT 5.69	LT 11.50
05/18/88	UB	....	....	....	....	120	....	....	LT 5.69	LT 11.50
05/25/88	UB	....	....	....	....	110	....	....	LT 5.69	LT 11.50
06/01/88	UB	....	....	....	....	140	....	....	LT 5.69	LT 11.50
06/08/88	UB	....	....	....	....	110	....	....	LT 5.69	LT 11.50
06/15/88	UB	....	....	....	....	860	....	....	LT 5.69	LT 11.50
06/22/88	UB	....	....	....	....	140	....	....	LT 5.69	LT 11.50
06/29/88	UB	....	....	....	....	110	....	....	LT 5.69	LT 11.50
07/06/88	UB	....	....	....	....	....	....	....	....	....
07/13/88	UB	....	....	....	....	....	....	....	LT 5.69	LT 11.50
07/20/88	UB	....	....	....	....	110	....	....	LT 5.69	LT 11.50
07/27/88	UB	....	....	....	....	130	....	....	LT 5.69	LT 11.50
08/03/88	UB	....	....	....	....	100	....	....	LT 5.69	LT 11.50
08/10/88	UB	....	....	....	....	....	....	....	....	....
08/17/88	UB	....	....	....	....	100	....	....	LT 5.69	LT 11.50
08/24/88	UB	....	....	....	....	....	....	....	....	....
08/31/88	UB	....	....	....	....	100	....	....	LT 5.69	LT 11.50
09/07/88	UB	....	....	....	....	100	....	....	LT 5.69	LT 11.50
09/14/88	UB	....	....	....	....	120	....	....	LT 5.69	LT 11.50
09/21/88	UB	....	....	....	....	120	....	....	LT 5.69	LT 11.50
09/28/88	UB	....	....	....	....	....	....	....	....	....

LT = LESS THAN The Following Concentration .... INDICATES THAT ANALYSIS WAS NOT PERFORMED

ug/l = MICROGRAM PER LITER mg/l = MILLIGRAM PER LITER

NORTH BOUNDARY TREATMENT PLANT - ADSORBER C FOR FY 88

SAMPLE DATE	ORG	CPMSO2 ug/l	DBCP ug/l	DCPD ug/l	DIMP ug/l	DITH ug/l	DLDRN ug/l	DMDS ug/l	DMMP ug/l	ENDRN ug/l
10/07/87	ES	....	0.195	LT 9.31	LT 10.10	....	0.097	....	LT 16.30	LT 0.06
10/14/87	ES	....	0.181	LT 9.31	LT 10.10	....	0.095	....	LT 16.30	LT 0.06
10/21/87	ES	....	0.179	LT 9.31	LT 10.10	....	0.095	....	LT 16.30	LT 0.06
10/28/87	ES	....	0.178	LT 9.31	LT 10.10	....	0.108	....	LT 16.30	LT 0.06
11/04/87	ES	3.92	0.160	LT 9.31	LT 10.10	LT 3.34	0.109	LT 1.16	LT 16.30	LT 0.06
11/12/87	ES	....	0.158	LT 9.31	LT 10.10	....	0.137	....	LT 16.30	0.07
11/18/87	ES	....	0.155	LT 9.31	LT 10.10	....	0.104	....	LT 16.30	LT 0.06
11/25/87	ES	....	....	....	....	....	....	....	....	....
12/02/87	ES	....	0.162	LT 9.31	LT 10.10	....	0.108	....	LT 16.30	0.25
12/09/87	ES	LT 2.24	0.159	LT 9.31	LT 10.10	LT 3.34	0.091	LT 1.16	LT 16.30	0.06
12/16/87	ES	....	0.158	LT 9.31	LT 10.10	....	0.103	....	LT 16.30	LT 0.06
12/23/87	ES	....	....	....	....	....	....	....	....	....
12/30/87	ES	....	....	....	....	....	....	....	....	....
01/06/88	ES	....	0.152	LT 9.31	LT 10.10	....	0.105	....	LT 16.30	LT 0.06
01/13/88	ES	....	LT 0.130	LT 9.31	LT 10.10	....	0.071	....	LT 16.30	LT 0.06
01/20/88	ES	3.01	0.146	LT 9.31	LT 10.10	LT 3.34	0.078	LT 1.16	LT 16.30	LT 0.06
01/28/88	ES	....	0.150	LT 9.31	LT 10.10	....	0.090	....	LT 16.30	LT 0.06
02/03/88	ES	....	0.157	LT 9.31	LT 10.10	....	0.128	....	LT 16.30	0.06
02/10/88	ES	....	LT 0.130	LT 9.31	LT 10.10	....	0.100	....	LT 16.30	0.06
02/17/88	ES	LT 2.24	LT 0.130	LT 9.31	LT 10.10	LT 3.34	0.056	LT 1.16	LT 16.30	LT 0.06
02/24/88	RM	LT 20.00	LT 0.200	LT 1.00	LT 10.00	LT 20.00	LT 0.200	....	....	LT 0.20
03/02/88	RM	....	....	....	....	....	....	....	....	....
03/09/88	RM	LT 20.00	LT 0.200	3.00	LT 10.00	LT 20.00	LT 0.200	....	....	LT 0.20
03/16/88	RM	LT 20.00	LT 0.200	3.00	LT 10.00	LT 20.00	LT 0.200	....	....	LT 0.20
03/23/88	RM	LT 20.00	LT 0.200	LT 1.00	LT 10.00	LT 20.00	LT 0.200	....	....	LT 0.20
03/30/88	RM	LT 20.00	LT 0.200	3.00	LT 10.00	LT 20.00	LT 0.200	....	....	LT 0.20
04/06/88	RM	LT 7.46	LT 0.195	LT 5.00	5.30	LT 1.34	0.080	....	....	LT 0.05
04/13/88	UB	LT 7.46	LT 0.195	LT 5.00	5.03	LT 1.34	0.078	....	....	LT 0.05
04/20/88	UB	LT 7.46	LT 0.195	LT 5.00	2.38	LT 1.34	0.070	....	....	LT 0.05
04/27/88	UB	LT 7.46	LT 0.195	LT 5.00	2.08	LT 1.34	0.096	....	....	0.41
05/04/88	UB	LT 7.46	LT 0.195	LT 5.00	2.55	LT 1.34	0.991	....	....	LT 0.05
05/11/88	UB	LT 7.46	LT 0.195	LT 5.00	5.77	LT 1.34	0.112	....	....	0.07
05/18/88	UB	LT 7.46	LT 0.195	LT 5.00	6.58	LT 1.34	LT 0.050	....	....	LT 0.05
05/25/88	UB	LT 7.46	LT 0.195	LT 5.00	5.08	LT 1.34	0.065	....	....	LT 0.05
06/01/88	UB	LT 7.46	LT 0.195	LT 5.00	4.35	LT 1.34	0.057	....	....	0.06
06/08/88	UB	LT 7.46	LT 0.195	LT 5.00	2.69	LT 1.34	0.080	....	....	0.06
06/15/88	UB	LT 7.46	LT 0.195	LT 5.00	3.20	LT 1.34	0.106	....	....	LT 0.05
06/22/88	UB	LT 7.46	LT 0.195	LT 5.00	3.69	LT 1.34	0.103	....	....	LT 0.05
06/29/88	UB	LT 7.46	LT 0.195	LT 5.00	....	LT 1.34	0.080	....	....	LT 0.05
07/06/88	UB	....	....	....	....	....	....	....	....	....
07/13/88	UB	LT 7.46	....	LT 5.00	....	LT 1.34	0.075	....	....	LT 0.05
07/20/88	UB	LT 7.46	LT 0.195	LT 5.00	4.55	LT 1.34	0.119	....	....	LT 0.05
07/27/88	UB	LT 7.46	LT 0.195	LT 5.00	4.86	LT 1.34	0.188	....	....	0.06
08/03/88	UB	LT 7.46	LT 0.195	LT 5.00	5.18	LT 1.34	0.186	....	....	LT 0.05
08/10/88	UB	....	....	....	....	....	....	....	....	....
08/17/88	UB	LT 7.46	LT 0.195	LT 5.00	47.80	LT 1.34	0.107	....	....	LT 0.05
08/24/88	UB	....	....	....	....	....	....	....	....	....
08/31/88	UB	LT 7.46	LT 0.195	LT 5.00	5.19	LT 1.34	0.111	....	....	0.05
09/07/88	UB	LT 7.46	LT 0.195	LT 5.00	4.59	LT 1.34	0.114	....	....	0.05
09/14/88	UB	LT 7.46	LT 0.195	LT 5.00	LT 0.65	LT 1.34	0.113	....	....	LT 0.05
09/21/88	UB	LT 7.46	....	....	....	LT 1.34	0.103	....	....	LT 0.05
09/28/88	UB	....	....	....	....	....	....	....	....	....

LT = LESS THAN The Following Concentration .... INDICATES THAT ANALYSIS WAS NOT PERFORMED

ug/l = MICROGRAM PER LITER mg/l = MILLIGRAM PER LITER

NORTH BOUNDARY TREATMENT PLANT - ADSORBER C FOR FY 88

SAMPLE DATE	ORG	ETC6H5 ug/l	FLUORIDE mg/l	HCCPD ug/l	ISOOR ug/l	MEC6H5 ug/l	MIBK ug/l	M-XYLENE ug/l	O,P-XYLENE ug/l	OXAT ug/l
10/07/87	ES	....	1.84	LT 0.083	LT 0.056	....	LT 12.90	....	....	....
10/14/87	ES	....	1.14	LT 0.083	LT 0.056	....	LT 12.90	....	....	....
10/21/87	ES	....	9.72	LT 0.083	LT 0.056	....	LT 12.90	....	....	....
10/28/87	ES	....	1.01	LT 0.083	LT 0.056	....	LT 12.90	....	....	....
11/04/87	ES	....	1.18	LT 0.083	LT 0.056	LT 2.10	LT 12.90	LT 1.04	LT 1.34	LT 1.35
11/12/87	ES	LT 0.62	1.14	LT 0.083	LT 0.056	....	LT 12.90	....	....	....
11/18/87	ES	....	1.66	LT 0.083	LT 0.056	....	LT 12.90	....	....	....
11/25/87	ES	....	....	....	....	....	....	....	....	....
12/02/87	ES	....	2.04	LT 0.083	LT 0.056	....	LT 12.90	....	....	....
12/09/87	ES	LT 0.62	1.85	LT 0.083	LT 0.056	LT 2.10	LT 12.90	LT 1.04	LT 1.34	LT 1.35
12/16/87	ES	....	1.42	LT 0.083	LT 0.056	....	LT 12.90	....	....	....
12/23/87	ES	....	....	....	....	....	....	....	....	....
12/30/87	ES	....	....	....	....	....	....	....	....	....
01/06/88	ES	....	1.24	LT 0.083	LT 0.056	....	LT 12.90	....	....	....
01/13/88	ES	....	1.40	LT 0.083	LT 0.056	....	LT 12.90	....	....	....
01/20/88	ES	LT 0.62	1.48	LT 0.083	LT 0.056	LT 2.10	LT 12.90	LT 1.04	LT 1.34	LT 1.35
01/28/88	ES	....	1.62	LT 0.083	LT 0.056	....	LT 12.90	....	....	....
02/03/88	ES	....	1.50	LT 0.083	LT 0.056	....	LT 12.90	....	....	....
02/10/88	ES	....	1.57	LT 0.083	LT 0.056	....	LT 12.90	....	....	....
02/17/88	ES	LT 0.62	1.41	LT 0.083	LT 0.056	LT 2.10	LT 12.90	LT 1.04	LT 1.34	LT 1.35
02/24/88	RM	....	1.70	....	LT 0.200	LT 1.00	....	....	....	LT 20.00
03/02/88	RM	....	....	....	....	....	....	....	....	....
03/09/88	RM	....	1.70	....	LT 0.200	LT 1.00	....	....	....	LT 20.00
03/16/88	RM	....	1.60	....	LT 0.200	LT 1.00	....	....	....	LT 20.00
03/23/88	RM	....	1.60	....	LT 0.200	LT 1.00	....	....	....	LT 20.00
03/30/88	RM	....	1.80	....	LT 0.200	LT 1.00	....	....	....	LT 20.00
04/06/88	RM	....	2.87	....	LT 0.051	....	....	....	....	LT 2.38
04/13/88	UB	....	2.54	....	LT 0.051	....	....	....	....	LT 2.38
04/20/88	UB	....	2.54	....	LT 0.051	....	....	....	....	LT 2.38
04/27/88	UB	....	2.80	....	0.623	....	....	....	....	LT 2.38
05/04/88	UB	....	....	....	LT 0.051	....	....	....	....	LT 2.38
05/11/88	UB	....	2.61	....	LT 0.051	....	....	....	....	LT 2.38
05/18/88	UB	....	2.32	....	LT 0.051	....	....	....	....	LT 2.38
05/25/88	UB	....	2.55	....	LT 0.051	....	....	....	....	LT 2.38
06/01/88	UB	....	2.71	....	LT 0.051	....	....	....	....	LT 2.38
06/08/88	UB	....	2.56	....	LT 0.051	....	....	....	....	LT 2.38
06/15/88	UB	....	2.73	....	LT 0.051	....	....	....	....	LT 2.38
06/22/88	UB	....	2.47	....	LT 0.051	....	....	....	....	LT 2.38
06/29/88	UB	....	2.70	....	LT 0.051	....	....	....	....	LT 2.38
07/06/88	UB	....	....	....	....	....	....	....	....	....
07/13/88	UB	....	....	....	LT 0.051	....	....	....	....	LT 2.38
07/20/88	UB	....	2.57	....	LT 0.051	....	....	....	....	LT 2.38
07/27/88	UB	....	2.17	....	LT 0.051	....	....	....	....	LT 2.38
08/03/88	UB	....	2.41	....	LT 0.051	....	....	....	....	LT 2.38
08/10/88	UB	....	....	....	....	....	....	....	....	....
08/17/88	UB	....	2.49	....	LT 0.051	....	....	....	....	LT 2.38
08/24/88	UB	....	....	....	....	....	....	....	....	....
08/31/88	UB	....	2.48	....	LT 0.051	....	....	....	....	LT 2.38
09/07/88	UB	....	2.57	....	LT 0.051	....	....	....	....	LT 2.38
09/14/88	UB	....	2.38	....	LT 0.051	....	....	....	....	LT 2.38
09/21/88	UB	....	2.29	....	LT 0.051	....	....	....	....	LT 2.38
09/28/88	UB	....	....	....	....	....	....	....	....	....

LT = LESS THAN The Following Concentration .... INDICATES THAT ANALYSIS WAS NOT PERFORMED

ug/l = MICROGRAM PER LITER mg/l = MILLIGRAM PER LITER

NORTH BOUNDARY TREATMENT PLANT - ADSORBER C FOR FY 88

SAMPLE DATE	ORG	PPDDE ug/l	PPDDT ug/l	SO4 mg/l	T12DCE ug/l	TCLEE ug/l	TRCLE ug/l
10/07/87	ES	LT 0.046	LT 0.059	382	....	....	....
10/14/87	ES	LT 0.046	LT 0.059	399	....	....	....
10/21/87	ES	LT 0.046	LT 0.059	412	....	....	....
10/28/87	ES	LT 0.046	LT 0.059	353	....	....	....
11/04/87	ES	LT 0.046	LT 0.059	380	LT 1.80	LT 2.80	LT 1.30
11/12/87	ES	LT 0.046	LT 0.059	341	....	....	....
11/18/87	ES	LT 0.046	LT 0.059	385	....	....	....
11/25/87	ES	....	....	....	....	....	....
12/02/87	ES	LT 0.046	LT 0.059	437	....	....	....
12/09/87	ES	LT 0.046	LT 0.059	507	LT 1.80	LT 2.80	LT 1.30
12/16/87	ES	LT 0.046	LT 0.059	399	....	....	....
12/23/87	ES	....	....	....	....	....	....
12/30/87	ES	....	....	....	....	....	....
01/06/88	ES	LT 0.046	LT 0.059	395	....	....	....
01/13/88	ES	LT 0.046	LT 0.059	400	....	....	....
01/20/88	ES	LT 0.046	LT 0.059	383	LT 1.80	LT 2.80	LT 1.30
01/28/88	ES	LT 0.046	LT 0.059	370	....	....	....
02/03/88	ES	LT 0.046	LT 0.059	410	....	....	....
02/10/88	ES	LT 0.046	LT 0.059	368	....	....	....
02/17/88	ES	LT 0.046	LT 0.059	385	LT 1.80	LT 2.80	LT 1.30
02/24/88	RM	....	....	....	....	LT 1.00	LT 1.00
03/02/88	RM	....	....	....	....	LT 1.00	....
03/09/88	RM	....	....	....	....	LT 1.00	LT 1.00
03/16/88	RM	....	....	....	....	LT 1.00	LT 1.00
03/23/88	RM	....	....	....	....	LT 1.00	LT 1.00
03/30/88	RM	....	....	....	....	....	LT 1.00
04/06/88	RM	....	....	....	....	....	LT 0.56
04/13/88	UB	....	....	....	....	....	LT 0.56
04/20/88	UB	....	....	....	....	....	LT 0.56
04/27/88	UB	....	....	....	....	....	LT 0.56
05/04/88	UB	....	....	....	....	....	LT 0.56
05/11/88	UB	....	....	....	....	....	LT 0.56
05/18/88	UB	....	....	....	....	....	LT 0.56
05/25/88	UB	....	....	....	....	....	LT 0.56
06/01/88	UB	....	....	....	....	....	LT 0.56
06/08/88	UB	....	....	....	....	....	LT 0.56
06/15/88	UB	....	....	....	....	....	LT 0.56
06/22/88	UB	....	....	....	....	....	LT 0.56
06/29/88	UB	....	....	....	....	....	LT 0.56
07/06/88	UB	....	....	....	....	....	....
07/13/88	UB	....	....	....	....	....	....
07/20/88	UB	....	....	....	....	....	LT 0.56
07/27/88	UB	....	....	....	....	....	LT 0.56
08/03/88	UB	....	....	....	....	....	LT 0.56
08/10/88	UB	....	....	....	....	....	....
08/17/88	UB	....	....	....	....	....	LT 0.56
08/24/88	UB	....	....	....	....	....	....
08/31/88	UB	....	....	....	....	....	LT 0.56
09/07/88	UB	....	....	....	....	....	LT 0.56
09/14/88	UB	....	....	....	....	....	LT 0.56
09/21/88	UB	....	....	....	....	....	....
09/28/88	UB	....	....	....	....	....	....

LT = LESS THAN The Following Concentration .... INDICATES THAT ANALYSIS WAS NOT PERFORMED

ug/l = MICROGRAM PER LITER mg/l = MILLIGRAM PER LITER

NORTH BOUNDARY TREATMENT PLANT - EFFLUENT FOR FY 88

SAMPLE DATE	ORG	111TCE ug/l	112TCE ug/l	11DCE ug/l	11DCLE ug/l	12DCE ug/l	12DCLE ug/l	ALDRN ug/l	AS ug/l	BTZ ug/l
10/07/87	ES	LT 1.09	....	....	....	....	....	LT 0.083	....	....
10/14/87	ES	....	....	....	....	....	....	LT 0.083	....	....
10/21/87	ES	....	....	....	....	....	....	LT 0.083	....	....
10/28/87	ES	....	....	....	....	....	....	LT 0.083	....	....
11/04/87	ES	....	LT 1.63	LT 1.85	LT 1.93	....	LT 2.07	LT 0.083	LT 2.52	LT 1.10
11/12/87	ES	....	....	....	....	....	....	LT 0.083	....	....
11/18/87	ES	....	....	....	....	....	....	LT 0.083	....	....
11/25/87	ES	....	....	....	....	....	....	....	....	....
12/02/87	ES	....	....	....	....	....	....	LT 0.083	....	....
12/09/87	ES	LT 1.09	LT 1.63	LT 1.85	LT 1.93	....	LT 2.07	LT 0.083	LT 2.52	LT 1.10
12/16/87	ES	....	....	....	....	....	....	LT 0.083	....	....
12/23/87	ES	....	....	....	....	....	....	....	....	....
12/30/87	ES	....	....	....	....	....	....	....	....	....
01/06/88	ES	....	....	....	....	....	....	LT 0.083	....	....
01/13/88	ES	....	....	....	....	....	....	LT 0.083	....	....
01/20/88	ES	LT 1.09	LT 1.63	LT 1.85	LT 1.93	....	LT 2.07	LT 0.083	LT 2.52	LT 1.10
01/28/88	ES	....	....	....	....	....	....	LT 0.083	....	....
02/03/88	ES	....	....	....	....	....	....	LT 0.083	....	....
02/10/88	ES	....	....	....	....	....	....	LT 0.083	....	....
02/17/88	ES	LT 1.09	LT 1.63	LT 1.85	LT 1.93	....	LT 2.07	LT 0.083	LT 2.52	LT 1.10
02/24/88	RM	....	....	....	....	LT 1.00	LT 1.00	LT 0.200	....	....
03/02/88	RM	....	....	....	....	LT 1.00	LT 1.00	LT 0.200	....	....
03/09/88	RM	....	....	....	....	LT 1.00	LT 1.00	LT 0.200	....	....
03/16/88	RM	....	....	....	....	LT 1.00	LT 1.00	LT 0.200	....	....
03/23/88	RM	....	....	....	....	LT 1.00	LT 1.00	LT 0.200	....	....
03/30/88	RM	....	....	....	....	LT 1.00	LT 1.00	LT 0.200	....	....
04/06/88	RM	....	....	....	....	....	....	LT 0.050	....	....
04/13/88	UB	....	....	....	....	....	....	LT 0.050	....	....
04/20/88	UB	....	....	....	....	....	....	LT 0.050	....	....
04/27/88	UB	....	....	....	....	....	....	LT 0.050	....	....
05/04/88	UB	....	....	....	....	....	....	LT 0.050	....	....
05/11/88	UB	....	....	....	....	....	....	LT 0.050	....	....
05/18/88	UB	....	....	....	....	....	....	LT 0.050	....	....
05/25/88	UB	....	....	....	....	....	....	LT 0.050	....	....
06/01/88	UB	....	....	....	....	....	....	LT 0.050	....	....
06/08/88	UB	....	....	....	....	....	....	LT 0.050	....	....
06/15/88	UB	....	....	....	....	....	....	LT 0.050	....	....
06/22/88	UB	....	....	....	....	....	....	LT 0.050	....	....
06/29/88	UB	....	....	....	....	....	....	LT 0.050	....	....
07/06/88	UB	....	....	....	....	....	....	....	....	....
07/13/88	UB	....	....	....	....	....	....	LT 0.050	....	....
07/20/88	UB	....	....	....	....	....	....	LT 0.050	....	....
07/27/88	UB	....	....	....	....	....	....	LT 0.050	....	....
08/03/88	UB	....	....	....	....	....	....	LT 0.050	....	....
08/10/88	UB	....	....	....	....	....	....	....	....	....
08/17/88	UB	....	....	....	....	....	....	LT 0.050	....	....
08/24/88	UB	....	....	....	....	....	....	....	....	....
08/31/88	UB	....	....	....	....	....	....	LT 0.050	....	....
09/07/88	UB	....	....	....	....	....	....	LT 0.050	....	....
09/14/88	UB	....	....	....	....	....	....	LT 0.050	....	....
09/21/88	UB	....	....	....	....	....	....	LT 0.050	....	....
09/28/88	UB	....	....	....	....	....	....	....	....	....

LT = LESS THAN The Following Concentration .... INDICATES THAT ANALYSIS WAS NOT PERFORMED

ug/l = MICROGRAM PER LITER mg/l = MILLIGRAM PER LITER

NORTH BOUNDARY TREATMENT PLANT - EFFLUENT FOR FY 88

SAMPLE DATE	ORG	C6H6 ug/l	CCL4 ug/l	CH2CL2 ug/l	CHCL3 ug/l	CHLORIDE mg/l	CLC6H5 ug/l	CLDAN ug/l	CPMS ug/l	CPMSO ug/l
10/07/87	ES	....	....	....	....	268	....	LT 0.152	....	....
10/14/87	ES	....	....	....	....	302	....	LT 0.152	....	....
10/21/87	ES	....	....	....	....	375	....	LT 0.152	....	....
10/28/87	ES	....	....	....	....	251	....	LT 0.152	....	....
11/04/87	ES	LT 1.92	LT 1.69	LT 2.48	LT 1.88	250	LT 1.36	LT 0.152	LT 1.08	LT 1.98
11/12/87	ES	....	....	....	....	251	....	LT 0.152	....	....
11/18/87	ES	....	....	....	....	280	....	LT 0.152	....	....
11/25/87	ES	....	....	....	....	....	....	....	....	....
12/02/87	ES	....	....	....	....	347	....	LT 0.152	....	....
12/09/87	ES	LT 1.92	LT 1.69	LT 2.48	LT 1.88	240	LT 1.36	LT 0.152	LT 1.08	LT 1.98
12/16/87	ES	....	....	....	....	283	....	LT 0.152	....	....
12/23/87	ES	....	....	....	....	....	....	....	....	....
12/30/87	ES	....	....	....	....	....	....	....	....	....
01/06/88	ES	....	....	....	....	294	....	LT 0.152	....	....
01/13/88	ES	....	....	....	....	545	....	LT 0.152	....	....
01/20/88	ES	LT 1.92	LT 1.69	LT 2.48	LT 1.88	252	LT 1.36	LT 0.152	LT 1.08	LT 1.98
01/28/88	ES	....	....	....	....	442	....	LT 0.152	....	....
02/03/88	ES	....	....	....	....	288	....	LT 0.152	....	....
02/10/88	ES	....	....	....	....	272	....	LT 0.152	....	....
02/17/88	ES	LT 1.92	LT 1.69	LT 2.48	LT 1.88	276	LT 1.36	LT 0.152	LT 1.08	LT 1.98
02/24/88	RM	....	LT 1.00	....	9.00	319	....	....	LT 20.00	LT 20.00
03/02/88	RM	....	LT 1.00	....	10.00	461	....	....	LT 20.00	LT 20.00
03/09/88	RM	....	LT 1.00	....	10.00	300	....	....	LT 20.00	LT 20.00
03/16/88	RM	....	LT 1.00	....	10.00	300	....	....	LT 20.00	LT 20.00
03/23/88	RM	....	LT 1.00	....	10.00	....	....	....	LT 20.00	LT 20.00
03/30/88	RM	....	LT 1.00	....	10.00	300	....	....	LT 20.00	LT 20.00
04/06/88	RM	....	....	....	....	300	....	....	LT 5.69	LT 11.50
04/13/88	UB	....	....	....	....	370	....	....	LT 5.69	LT 11.50
04/20/88	UB	....	....	....	....	250	....	....	LT 5.69	LT 11.50
04/27/88	UB	....	....	....	....	300	....	....	LT 5.69	LT 11.50
05/04/88	UB	....	....	....	....	....	....	....	LT 5.69	LT 11.50
05/11/88	UB	....	....	....	....	340	....	....	LT 5.69	LT 11.50
05/18/88	UB	....	....	....	....	290	....	....	LT 5.69	LT 11.50
05/25/88	UB	....	....	....	....	270	....	....	LT 5.69	LT 11.50
06/01/88	UB	....	....	....	....	340	....	....	LT 5.69	LT 11.50
06/08/88	UB	....	....	....	....	280	....	....	LT 5.69	LT 11.50
06/15/88	UB	....	....	....	....	210	....	....	LT 5.69	LT 11.50
06/22/88	UB	....	....	....	....	370	....	....	LT 5.69	LT 11.50
06/29/88	UB	....	....	....	....	260	....	....	LT 5.69	LT 11.50
07/06/88	UB	....	....	....	....	....	....	....	....	....
07/13/88	UB	....	....	....	....	....	....	....	LT 5.69	LT 11.50
07/20/88	UB	....	....	....	....	230	....	....	LT 5.69	LT 11.50
07/27/88	UB	....	....	....	....	310	....	....	LT 5.69	LT 11.50
08/03/88	UB	....	....	....	....	300	....	....	LT 5.69	LT 11.50
08/10/88	UB	....	....	....	....	....	....	....	....	....
08/17/88	UB	....	....	....	....	320	....	....	LT 5.69	LT 11.50
08/24/88	UB	....	....	....	....	....	....	....	....	....
08/31/88	UB	....	....	....	....	270	....	....	LT 5.69	LT 11.50
09/07/88	UB	....	....	....	....	330	....	....	LT 5.69	LT 11.50
09/14/88	UB	....	....	....	....	310	....	....	LT 5.69	LT 11.50
09/21/88	UB	....	....	....	....	380	....	....	LT 5.69	LT 11.50
09/28/88	UB	....	....	....	....	....	....	....	....	....

LT = LESS THAN The Following Concentration .... INDICATES THAT ANALYSIS WAS NOT PERFORMED

ug/l = MICROGRAM PER LITER mg/l = MILLIGRAM PER LITER

NORTH BOUNDARY TREATMENT PLANT - EFFLUENT FOR FY 88

SAMPLE DATE	ORG	CPMSO2 ug/l	DBCP ug/l	DCPD ug/l	DIMP ug/l	DITH ug/l	DLDRN ug/l	DMDS ug/l	DMMP ug/l	ENDRN ug/l
10/07/87	ES	....	....	....	....	....	LT 0.054	....	....	LT 0.06
10/14/87	ES	....	....	....	....	....	LT 0.054	....	....	LT 0.06
10/21/87	ES	....	....	....	....	....	LT 0.054	....	....	LT 0.06
10/28/87	ES	....	....	....	....	....	LT 0.054	....	....	LT 0.06
11/04/87	ES	LT 2.24	LT 0.130	LT 9.31	LT 10.10	LT 3.34	LT 0.054	LT 1.16	LT 16.30	LT 0.06
11/12/87	ES	....	LT 0.130	LT 9.31	LT 10.10	....	LT 0.054	....	LT 16.30	LT 0.06
11/18/87	ES	....	LT 0.130	LT 9.31	LT 10.10	....	LT 0.054	....	LT 16.30	LT 0.06
11/25/87	ES	....	....	....	....	....	....	....	....	....
12/02/87	ES	....	LT 0.130	LT 9.31	LT 10.10	....	LT 0.054	....	LT 16.30	LT 0.06
12/09/87	ES	LT 2.24	LT 0.130	LT 9.31	LT 10.10	LT 3.34	LT 0.054	LT 1.16	LT 16.30	LT 0.06
12/16/87	ES	....	LT 0.130	LT 9.31	LT 10.10	....	LT 0.054	....	LT 16.30	LT 0.06
12/23/87	ES	....	....	....	....	....	....	....	....	....
12/30/87	ES	....	....	....	....	....	....	....	....	....
01/06/88	ES	....	LT 0.130	LT 9.31	LT 10.10	....	LT 0.054	....	LT 16.30	LT 0.06
01/13/88	ES	....	LT 0.130	LT 9.31	LT 10.10	....	LT 0.054	....	LT 16.30	LT 0.06
01/20/88	ES	LT 2.24	LT 0.130	LT 9.31	LT 10.10	LT 3.34	LT 0.054	LT 1.16	LT 16.30	LT 0.06
01/28/88	ES	....	LT 0.130	LT 9.31	LT 10.10	....	LT 0.054	....	LT 16.30	LT 0.06
02/03/88	ES	....	LT 0.130	LT 9.31	LT 10.10	....	LT 0.054	....	LT 16.30	LT 0.06
02/10/88	ES	....	LT 0.130	LT 9.31	LT 10.10	....	LT 0.054	....	LT 16.30	LT 0.06
02/17/88	ES	LT 2.24	LT 0.130	LT 9.31	LT 10.10	LT 3.34	LT 0.054	LT 1.16	LT 16.30	LT 0.06
02/24/88	RM	LT 20.00	LT 0.200	LT 1.00	LT 10.00	LT 20.00	LT 0.200	....	....	LT 0.20
03/02/88	RM	LT 20.00	LT 0.200	LT 1.00	LT 10.00	LT 20.00	LT 0.200	....	....	LT 0.20
03/09/88	RM	LT 20.00	LT 0.200	LT 1.00	LT 10.00	LT 20.00	LT 0.200	....	....	LT 0.20
03/16/88	RM	LT 20.00	LT 0.200	LT 1.00	LT 10.00	LT 20.00	LT 0.200	....	....	LT 0.20
03/23/88	RM	LT 20.00	LT 0.200	LT 1.00	LT 10.00	LT 20.00	LT 0.200	....	....	LT 0.20
03/30/88	RM	LT 20.00	LT 0.200	LT 1.00	LT 10.00	LT 20.00	LT 0.200	....	....	LT 0.20
04/06/88	RM	LT 7.46	LT 0.195	LT 5.00	LT 0.65	LT 1.34	LT 0.050	....	....	LT 0.05
04/13/88	UB	LT 7.46	LT 0.195	....	1.26	LT 1.34	0.062	....	....	LT 0.05
04/20/88	UB	LT 7.46	LT 0.195	LT 5.00	LT 0.65	LT 1.34	LT 0.050	....	....	LT 0.05
04/27/88	UB	LT 7.46	LT 0.195	LT 5.00	2.72	LT 1.34	LT 0.050	....	....	LT 0.05
05/04/88	UB	LT 7.46	LT 0.195	LT 5.00	1.36	LT 1.34	LT 0.050	....	....	LT 0.05
05/11/88	UB	LT 7.46	LT 0.195	LT 5.00	9.76	LT 1.34	LT 0.050	....	....	LT 0.05
05/18/88	UB	LT 7.46	LT 0.195	LT 5.00	2.09	LT 1.34	LT 0.050	....	....	LT 0.05
05/25/88	UB	LT 7.46	LT 0.195	LT 5.00	1.95	LT 1.34	LT 0.050	....	....	LT 0.05
06/01/88	UB	LT 7.46	0.289	LT 5.00	1.49	LT 1.34	LT 0.050	....	....	LT 0.05
06/08/88	UB	LT 7.46	LT 0.195	LT 5.00	1.74	LT 1.34	LT 0.050	....	....	LT 0.05
06/15/88	UB	LT 7.46	LT 0.195	LT 5.00	1.77	LT 1.34	LT 0.050	....	....	LT 0.05
06/22/88	UB	LT 7.46	LT 0.195	LT 5.00	1.15	LT 1.34	LT 0.050	....	....	LT 0.05
06/29/88	UB	LT 7.46	LT 0.195	LT 5.00	....	LT 1.34	LT 0.050	....	....	LT 0.05
07/06/88	UB	LT 7:46	....	....	....	....	....	....	....	....
07/13/88	UB	LT 7.46	....	LT 5.00	....	LT 1.34	LT 0.050	....	....	LT 0.05
07/20/88	UB	LT 7.46	LT 0.195	LT 5.00	1.78	LT 1.34	LT 0.050	....	....	LT 0.05
07/27/88	UB	....	LT 0.195	LT 5.00	1.68	LT 1.34	LT 0.050	....	....	LT 0.05
08/03/88	UB	LT 7.46	LT 0.195	LT 5.00	1.82	LT 1.34	LT 0.050	....	....	LT 0.05
08/10/88	UB	....	....	....	....	....	....	....	....	....
08/17/88	UB	LT 7.46	LT 0.195	LT 5.00	1.69	LT 1.34	LT 0.050	....	....	LT 0.05
08/24/88	UB	....	....	....	....	....	....	....	....	....
08/31/88	UB	LT 7.46	LT 0.195	LT 5.00	2.15	LT 1.34	LT 0.050	....	....	LT 0.05
09/07/88	UB	LT 7.46	LT 0.195	LT 5.00	....	LT 1.34	LT 0.050	....	....	LT 0.05
09/14/88	UB	LT 7.46	LT 0.195	LT 5.00	1.96	LT 1.34	LT 0.050	....	....	LT 0.05
09/21/88	UB	LT 7.46	....	....	1.73	LT 1.34	LT 0.050	....	....	LT 0.05
09/28/88	UB	....	....	....	....	....	....	....	....	....

LT = LESS THAN The Following Concentration .... INDICATES THAT ANALYSIS WAS NOT PERFORMED

ug/l = MICROGRAM PER LITER mg/l = MILLIGRAM PER LITER

NORTH BOUNDARY TREATMENT PLANT - EFFLUENT FOR FY 88

SAMPLE DATE	ORG	ETC6H5 ug/l	FLUORIDE mg/l	HCCPD ug/l	ISODR ug/l	MEC6H5 ug/l	MIBK ug/l	M-XYLENE ug/l	O,P-XYLENE ug/l	OXAT ug/l
10/07/87	ES	....	2.78	LT 0.083	LT 0.056	....	....	....	....	....
10/14/87	ES	....	1.74	LT 0.083	LT 0.056	....	....	....	....	....
10/21/87	ES	....	1.91	LT 0.083	LT 0.056	....	....	....	....	....
10/28/87	ES	....	1.65	LT 0.083	LT 0.056	....	....	....	....	....
11/04/87	ES	LT 0.62	1.67	LT 0.083	LT 0.056	LT 2.10	LT 12.90	LT 1.04	LT 1.34	LT 1.35
11/12/87	ES	....	1.60	LT 0.083	LT 0.056	....	LT 12.90	....	....	....
11/18/87	ES	....	2.46	LT 0.083	LT 0.056	....	LT 12.90	....	....	....
11/25/87	ES	....	....	....	....	....	....	....	....	....
12/02/87	ES	....	2.84	LT 0.083	LT 0.056	....	LT 12.90	....	....	....
12/09/87	ES	LT 0.62	2.94	LT 0.083	LT 0.056	LT 2.10	LT 12.90	LT 1.04	LT 1.34	LT 1.35
12/16/87	ES	....	2.16	LT 0.083	LT 0.056	....	LT 12.90	....	....	....
12/23/87	ES	....	....	....	....	....	....	....	....	....
12/30/87	ES	....	....	....	....	....	....	....	....	....
01/06/88	ES	....	2.06	LT 0.083	LT 0.056	....	LT 12.90	....	....	....
01/13/88	ES	....	2.54	LT 0.083	LT 0.056	....	LT 12.90	....	....	....
01/20/88	ES	LT 0.62	2.08	LT 0.083	LT 0.056	LT 2.10	LT 12.90	LT 1.04	LT 1.34	LT 1.35
01/28/88	ES	....	2.35	LT 0.083	LT 0.056	....	LT 12.90	....	....	....
02/03/88	ES	....	2.09	LT 0.083	LT 0.056	....	LT 12.90	....	....	....
02/10/88	ES	....	1.90	LT 0.083	LT 0.056	....	LT 12.90	....	....	....
02/17/88	ES	LT 0.62	1.92	LT 0.083	LT 0.056	LT 2.10	LT 12.90	LT 1.04	LT 1.34	LT 1.35
02/24/88	RM	....	2.60	....	LT 0.200	LT 1.00	....	....	....	LT 20.00
03/02/88	RM	....	2.70	....	LT 0.200	LT 1.00	....	....	....	LT 20.00
03/09/88	RM	....	2.30	....	LT 0.200	LT 1.00	....	....	....	LT 20.00
03/16/88	RM	....	2.20	....	LT 0.200	LT 1.00	....	....	....	LT 20.00
03/23/88	RM	....	2.50	....	LT 0.200	LT 1.00	....	....	....	LT 20.00
03/30/88	RM	....	2.30	....	LT 0.200	LT 1.00	....	....	....	LT 20.00
04/06/88	RM	....	3.97	....	LT 0.051	....	....	....	....	LT 2.38
04/13/88	UB	....	3.69	....	LT 0.051	....	....	....	....	LT 2.38
04/20/88	UB	....	3.42	....	LT 0.051	....	....	....	....	LT 2.38
04/27/88	UB	....	4.31	....	LT 0.051	....	....	....	....	LT 2.38
05/04/88	UB	....	....	....	LT 0.051	....	....	....	....	LT 2.38
05/11/88	UB	....	3.98	....	LT 0.051	....	....	....	....	LT 2.38
05/18/88	UB	....	3.45	....	LT 0.051	....	....	....	....	LT 2.38
05/25/88	UB	....	3.73	....	LT 0.051	....	....	....	....	LT 2.38
06/01/88	UB	....	3.70	....	LT 0.051	....	....	....	....	LT 2.38
06/08/88	UB	....	3.64	....	LT 0.051	....	....	....	....	LT 2.38
06/15/88	UB	....	3.60	....	LT 0.051	....	....	....	....	LT 2.38
06/22/88	UB	....	3.81	....	LT 0.051	....	....	....	....	LT 2.38
06/29/88	UB	....	3.51	....	LT 0.051	....	....	....	....	LT 2.38
07/06/88	UB	....	....	....	....	....	....	....	....	....
07/13/88	UB	....	....	....	LT 0.051	....	....	....	....	LT 2.38
07/20/88	UB	....	3.57	....	LT 0.051	....	....	....	....	LT 2.38
07/27/88	UB	....	2.93	....	LT 0.051	....	....	....	....	LT 2.38
08/03/88	UB	....	3.70	....	LT 0.051	....	....	....	....	LT 2.38
08/10/88	UB	....	....	....	....	....	....	....	....	....
08/17/88	UB	....	2.47	....	LT 0.051	....	....	....	....	LT 2.38
08/24/88	UB	....	....	....	....	....	....	....	....	....
08/31/88	UB	....	3.72	....	LT 0.051	....	....	....	....	LT 2.38
09/07/88	UB	....	3.87	....	LT 0.051	....	....	....	....	LT 2.38
09/14/88	UB	....	4.31	....	LT 0.051	....	....	....	....	LT 2.38
09/21/88	UB	....	4.89	....	LT 0.051	....	....	....	....	LT 2.38
09/28/88	UB	....	....	....	....	....	....	....	....	....

LT = LESS THAN The Following Concentration .... INDICATES THAT ANALYSIS WAS NOT PERFORMED

ug/l = MICROGRAM PER LITER mg/l = MILLIGRAM PER LITER

NORTH BOUNDARY TREATMENT PLANT - EFFLUENT FOR FY 88

SAMPLE DATE	ORG	PPDDE ug/l	PPDDT ug/l	SO4 mg/l	T12DCE ug/l	TCLEE ug/l	TRCLE ug/l
10/07/87	ES	LT 0.046	LT 0.059	385	....	....	....
10/14/87	ES	LT 0.046	LT 0.059	434	....	....	....
10/21/87	ES	LT 0.046	LT 0.059	461	....	....	....
10/28/87	ES	LT 0.046	LT 0.059	343	....	....	....
11/04/87	ES	LT 0.046	LT 0.059	420	LT 1.80	LT 2.80	LT 1.30
11/12/87	ES	LT 0.046	LT 0.059	374	....	....	....
11/18/87	ES	LT 0.046	LT 0.059	428	....	....	....
11/25/87	ES	....	....	....	....	....	....
12/02/87	ES	LT 0.046	LT 0.059	491	....	....	....
12/09/87	ES	LT 0.046	LT 0.059	478	LT 1.80	LT 2.80	LT 1.30
12/16/87	ES	LT 0.046	LT 0.059	440	....	....	....
12/23/87	ES	....	....	....	....	....	....
12/30/87	ES	....	....	....	....	....	....
01/06/88	ES	LT 0.046	LT 0.059	408	....	....	....
01/13/88	ES	LT 0.046	LT 0.059	436	....	....	....
01/20/88	ES	LT 0.046	LT 0.059	430	LT 1.80	LT 2.80	LT 1.30
01/28/88	ES	LT 0.046	LT 0.059	404	....	....	....
02/03/88	ES	LT 0.046	LT 0.059	427	....	....	....
02/10/88	ES	LT 0.046	LT 0.059	417	....	....	....
02/17/88	ES	LT 0.046	LT 0.059	427	LT 1.80	LT 2.80	LT 1.30
02/24/88	RM	....	....	....	....	LT 1.00	LT 1.00
03/02/88	RM	....	....	....	....	LT 1.00	LT 1.00
03/09/88	RM	....	....	....	....	LT 1.00	LT 1.00
03/16/88	RM	....	....	....	....	LT 1.00	LT 1.00
03/23/88	RM	....	....	....	....	LT 1.00	LT 1.00
03/30/88	RM	....	....	....	....	LT 1.00	LT 1.00
04/06/88	RM	....	....	....	....	....	LT 0.56
04/13/88	UB	....	....	....	....	....	LT 0.56
04/20/88	UB	....	....	....	....	....	LT 0.56
04/27/88	UB	....	....	....	....	....	LT 0.56
05/04/88	UB	....	....	....	....	....	LT 0.56
05/11/88	UB	....	....	....	....	....	LT 0.56
05/18/88	UB	....	....	....	....	....	LT 0.56
05/25/88	UB	....	....	....	....	....	LT 0.56
06/01/88	UB	....	....	....	....	....	LT 0.56
06/08/88	UB	....	....	....	....	....	LT 0.56
06/15/88	UB	....	....	....	....	....	LT 0.56
06/22/88	UB	....	....	....	....	....	LT 0.56
06/29/88	UB	....	....	....	....	....	LT 0.56
07/06/88	UB	....	....	....	....	....	....
07/13/88	UB	....	....	....	....	....	....
07/20/88	UB	....	....	....	....	....	LT 0.56
07/27/88	UB	....	....	....	....	....	LT 0.56
08/03/88	UB	....	....	....	....	....	LT 0.56
08/10/88	UB	....	....	....	....	....	....
08/17/88	UB	....	....	....	....	....	LT 0.56
08/24/88	UB	....	....	....	....	....	....
08/31/88	UB	....	....	....	....	....	LT 0.56
09/07/88	UB	....	....	....	....	....	LT 0.56
09/14/88	UB	....	....	....	....	....	LT 0.56
09/21/88	UB	....	....	....	....	....	....
09/28/88	UB	....	....	....	....	....	....

LT = LESS THAN The Following Concentration .... INDICATES THAT ANALYSIS WAS NOT PERFORMED

ug/l = MICROGRAM PER LITER mg/l = MILLIGRAM PER LITER

R.I.C.
03/24/89

FY 88 STATISTICAL SUMMARY
NORTH BOUNDARY SYSTEM

SITE: PLAIN

ANALYTE	TOT SAMP	SAMP >CRL	% > CRL	CERTIFIED REPORT. LIMIT (LT)	UOM	MEAN	LOW VALUE	HIGH VALUE
111TCE	4	0	0%	1.09	UGL	LT CRL	LT CRL	LT CRL
112TCE	4	0	0%	1.63	UGL	LT CRL	LT CRL	LT CRL
11DCE	4	0	0%	1.85	UGL	LT CRL	LT CRL	LT CRL
11DCLE	4	0	0%	1.93	UGL	LT CRL	LT CRL	LT CRL
12DCE	6	0	0%	1.00	UGL	LT CRL	LT CRL	LT CRL
12DCLE	10	4	40%	1.00	UGL	LT CRL	LT CRL	5.080
ALDRN	45	10	22%	0.083 0.200 0.050	UGL	LT CRL	LT CRL	0.901
AS	4	3	75%	2.52	UGL	3.53	LT CRL	5.850
BTZ	4	0	0%	1.10	UGL	LT CRL	LT CRL	LT CRL
C6H6	4	0	0%	1.92	UGL	LT CRL	LT CRL	LT CRL
CCL4	9	0	0%	1.69 1.00	UGL	LT CRL	LT CRL	LT CRL
CH2CL2	4	0	0%	2.48	UGL	LT CRL	LT CRL	LT CRL
CHCL3	10	10	100%		UGL	13.08	4.33	20.000
CL	41	41	100%		MGL	726.76	100.00	1130.00
CLC6H5	4	0	0%	1.36	UGL	LT CRL	LT CRL	LT CRL
CLDAN	17	0	0%	0.152	UGL	LT CRL	LT CRL	LT CRL
CPMS	32	15	47%	20.0 5.69	UGL	LT CRL	LT CRL	13.000
CPMSO	32	30	94%	11.5	UGL	29.17	LT CRL	49.500
CPMSO2	32	31	97%	7.46	UGL	34.75	LT CRL	56.500
DBCP	43	42	98%	0.195	UGL	0 79	LT CRL	1.090
DCPD	42	41	98%	5.00	UGL	392.57	LT CRL	1000.00
DIMP	41	41	100%		UGL	973.89	83.60	1700.00
DITH	32	30	94%	1.34	UGL	24.20	LT CRL	33.000
DLDRN	45	44	98%	0.050	UGL	2.21	LT CRL	3.760
DMDS	4	0	0%	1.16	UGL	LT CRL	LT CRL	LT CRL
DMMP	17	0	0%	16.3	UGL	LT CRL	LT CRL	LT CRL
ENDRN	44	36	82%	0.200 0.050	UGL	1.51	LT CRL	6.010
ETC6H5	4	1	25%	0.620	UGL	LT CRL	LT CRL	1.490
F	43	43	100%		MGL	4.54	1.26	8.520
HCCPD	17	3	18%	0.083	UGL	LT CRL	LT CRL	0.725
ISODR	45	4	9%	0.056 0.200 0.051	UGL	LT CRL	LT CRL	1.000
MEC6H5	10	6	60%	2.10	UGL	LT CRL	LT CRL	50.000
MIBK	17	0	0%	12.9	UGL	LT CRL	LT CRL	LT CRL
MXYL	4	0	0%	1.04	UGL	LT CRL	LT CRL	LT CRL
OPXYL	4	0	0%	1.34	UGL	LT CRL	LT CRL	LT CRL
OXAT	32	24	75%	20.0 2.38	UGL	7.87	LT CRL	6.600
PPDDE	17	0	0%	0.046	UGL	LT CRL	LT CRL	LT CRL
PPDDT	17	10	59%	0.059	UGL	LT CRL	LT CRL	0.418
SO4	17	17	100%		MGL	416.41	340.00	469.000
T12DCE	4	0	0%	1.80	UGL	LT CRL	LT CRL	LT CRL
TCLEE	10	9	90%	2.80	UGL	69.95	LT CRL	200.000
TRCLE	30	28	93%	1.30 0.560	UGL	3.73	LT CRL	6.620

R.I.C.
03/24/89

FY 88 STATISTICAL SUMMARY
NORTH BOUNDARY SYSTEM

SITE: PNABIN

ANALYTE	TOT SAMP	SAMP >CRL	% > CRL	CERTIFIED REPORT. LIMIT (LT)	UOM	MEAN	LOW VALUE	HIGH VALUE
111TCE	4	0	0%	1.09	UGL	LT CRL	LT CRL	LT CRL
112TCE	4	0	0%	1.63	UGL	LT CRL	LT CRL	LT CRL
11DCE	4	0	0%	1.85	UGL	LT CRL	LT CRL	LT CRL
11DCLE	4	0	0%	1.93	UGL	LT CRL	LT CRL	LT CRL
12DCE	6	0	0%	1.00	UGL	LT CRL	LT CRL	LT CRL
12DCLE	10	0	0%	2.07 1.00	UGL	LT CRL	LT CRL	LT CRL
ALDRN	45	5	11%	0.083 0.200 0.050	UGL	LT CRL	LT CRL	0.360
AS	4	0	0%	2.52	UGL	LT CRL	LT CRL	LT CRL
BTZ	4	0	0%	1.10	UGL	LT CRL	LT CRL	LT CRL
C6H6	4	0	0%	1.92	UGL	LT CRL	LT CRL	LT CRL
CCL4	10	0	0%	1.69 1.00	UGL	LT CRL	LT CRL	LT CRL
CH2CL2	4	0	0%	2.48	UGL	LT CRL	LT CRL	LT CRL
CHCL3	10	10	100%		UGL	26.08	19.20	30.000
CL	42	42	100%		MGL	155.24	100.00	930.000
CLC6H5	4	0	0%	1.36	UGL	LT CRL	LT CRL	LT CRL
CLDAN	17	0	0%	0.152	UGL	LT CRL	LT CRL	LT CRL
CPMS	32	5	16%	20.0 5.69	UGL	LT CRL	LT CRL	6.520
CPMSO	32	22	69%	20.0 11.5	UGL	LT CRL	LT CRL	33.700
CPMSO2	32	5	16%	2.24 20.0 7.46	UGL	LT CRL	LT CRL	43.800
DBCP	43	42	98%	0.195	UGL	0.69	LT CRL	0.950
DCPD	43	37	86%	9.31 5.00	UGL	15.35	LT CRL	36.500
DIMP	42	42	100%		UGL	138.57	67.70	1000.00
DITH	32	2	6%	3.34 20.0 1.34	UGL	LT CRL	LT CRL	27.100
DLDRN	45	44	98%	0.050	UGL	0.75	LT CRL	1.310
DMDS	4	0	0%	1.16	UGL	LT CRL	LT CRL	LT CRL
DMMP	17	0	0%	16.3	UGL	LT CRL	LT CRL	LT CRL
ENDRN	45	41	91%	0.200 0.050	UGL	0.75	LT CRL	8.200
ETC6H5	4	0	0%	0.620	UGL	LT CRL	LT CRL	LT CRL
F	43	43	100%		MGL	3.05	2.02	4.100
HCCPD	17	0	0%	0.083	UGL	LT CRL	LT CRL	LT CRL
ISODR	45	0	0%	0.056 0.200 0.051	UGL	LT CRL	LT CRL	LT CRL
MEC6H5	10	4	40%	2.10 1.00	UGL	LT CRL	LT CRL	4.000
MIBK	17	0	0%	12.9	UGL	LT CRL	LT CRL	LT CRL
MXYL	4	0	0%	1.04	UGL	LT CRL	LT CRL	LT CRL
OPXYL	4	0	0%	1.34	UGL	LT CRL	LT CRL	LT CRL
OXAT	32	1	3%	1.35 20.0 2.38	UGL	LT CRL	LT CRL	6.910
PPDDE	17	0	0%	0.046	UGL	LT CRL	LT CRL	LT CRL
PPDDT	17	0	0%	0.059	UGL	LT CRL	LT CRL	LT CRL
SO4	17	17	100%		MGL	483.35	384.00	738.000
T12DCE	4	0	0%	1.80	UGL	LT CRL	LT CRL	LT CRL
TCLEE	10	10	100%		UGL	13.34	4.40	20.000
TRCLE	30	3	10%	1.30 1.00 0.560	UGL	LT CRL	LT CRL	2.090

R.I.C.
03/24/89

FY 88 STATISTICAL SUMMARY
NORTH BOUNDARY SYSTEM

SITE: PNACIN

ANALYTE	TOT SAMP	SAMP >CRL	% > CRL	CERTIFIED REPORT. LIMIT (LT)	UOM	MEAN	LOW VALUE	HIGH VALUE
111TCE	4	0	0%	1.09	UGL	LT CRL	LT CRL	LT CRL
112TCE	4	0	0%	1.63	UGL	LT CRL	LT CRL	LT CRL
11DCE	4	0	0%	1.85	UGL	LT CRL	LT CRL	LT CRL
11DCLE	4	0	0%	1.93	UGL	LT CRL	LT CRL	LT CRL
12DCE	5	0	0%	1.00	UGL	LT CRL	LT CRL	LT CRL
12DCLE	9	0	0%	2.07 1.00	UGL	LT CRL	LT CRL	LT CRL
ALDRN	44	1	2%	0.083 0.200 0.050	UGL	LT CRL	LT CRL	0.072
AS	4	0	0%	2.52	UGL	LT CRL	LT CRL	LT CRL
BTZ	4	0	0%	1.10	UGL	LT CRL	LT CRL	LT CRL
C6H6	4	0	0%	1.92	UGL	LT CRL	LT CRL	LT CRL
CCL4	9	4	44%	1.00	UGL	LT CRL	LT CRL	5.070
CH2CL2	4	0	0%	2.48	UGL	LT CRL	LT CRL	LT CRL
CHCL3	9	5	56%	1.88	UGL	LT CRL	LT CRL	30.000
CL	41	41	100%		MGL	151.68	100.00	979.000
CLC6H5	4	0	0%	1.36	UGL	LT CRL	LT CRL	LT CRL
CLDAN	17	0	0%	0.152	UGL	LT CRL	LT CRL	LT CRL
CPMS	31	0	0%	1.08 20.0 5.69	UGL	LT CRL	LT CRL	LT CRL
CPMSO	31	0	0%	1.98 20.0 11.5	UGL	LT CRL	LT CRL	LT CRL
CPMSO2	31	2	6%	2.24 20.0 7.46	UGL	LT CRL	LT CRL	3.920
DBCP	42	14	33%	0.130 0.200 0.195	UGL	LT CRL	LT CRL	0.195
DCPD	43	3	7%	9.31 1.00 5.00	UGL	LT CRL	LT CRL	3.000
DIMP	41	18	44%	10.1 10.0 0.650	UGL	LT CRL	LT CRL	47.800
DITH	31	0	0%	3.34 20.0 1.34	UGL	LT CRL	LT CRL	LT CRL
DLDRN	44	38	86%	0.200 0.050	UGL	0.11	LT CRL	0.188
DMDS	4	0	0%	1.16	UGL	LT CRL	LT CRL	LT CRL
DMMP	17	0	0%	16.3	UGL	LT CRL	LT CRL	LT CRL
ENDRN	44	12	27%	0.060 0.200 0.050	UGL	LT CRL	LT CRL	0.410
ETC6H5	4	0	0%	0.620	UGL	LT CRL	LT CRL	LT CRL
F	42	42	100%		MGL	2.20	1.01	9.720
HCCPD	17	0	0%	0.083	UGL	LT CRL	LT CRL	LT CRL
ISODR	44	1	2%	0.056 0.200 0.051	UGL	LT CRL	LT CRL	0.623
MEC6H5	9	0	0%	2.10 1.00	UGL	LT CRL	LT CRL	LT CRL
MIBK	17	0	0%	12.9	UGL	LT CRL	LT CRL	LT CRL
MXYL	4	0	0%	1.04	UGL	LT CRL	LT CRL	LT CRL
OPXYL	4	0	0%	1.34	UGL	LT CRL	LT CRL	LT CRL
OXAT	31	0	0%	1.35 20.0 2.38	UGL	LT CRL	LT CRL	LT CRL
PPDDE	17	0	0%	0.046	UGL	LT CRL	LT CRL	LT CRL
PPDDT	17	0	0%	0.059	UGL	LT CRL	LT CRL	LT CRL
SO4	17	17	100%		MGL	394.47	341.00	507.000
T12DCE	4	0	0%	1.80	UGL	LT CRL	LT CRL	LT CRL
TCLEE	9	0	0%	2.80 1.00	UGL	LT CRL	LT CRL	LT CRL
TRCLE	29	0	0%	1.30 1.00 0.560	UGL	LT CRL	LT CRL	LT CRL

R.I.C.
03/24/89

FY 88 STATISTICAL SUMMARY
NORTH BOUNDARY SYSTEM

SITE: PNEFIN

ANALYTE	TOT SAMP	SAMP >CRL	% > CRL	CERTIFIED REPORT. LIMIT (LT)	UOM	MEAN	LOW VALUE	HIGH VALUE
111TCE	4	0	0%	1.09	UGL	LT CRL	LT CRL	LT CRL
112TCE	4	0	0%	1.63	UGL	LT CRL	LT CRL	LT CRL
11DCE	4	0	0%	1.85	UGL	LT CRL	LT CRL	LT CRL
11DCLE	4	0	0%	1.93	UGL	LT CRL	LT CRL	LT CRL
12DCE	6	0	0%	1.00	UGL	LT CRL	LT CRL	LT CRL
12DCLE	10	0	0%	2.07 1.00	UGL	LT CRL	LT CRL	LT CRL
ALDRN	45	0	0%	0.083 0.200 0.050	UGL	LT CRL	LT CRL	LT CRL
AS	4	0	0%	2.52	UGL	LT CRL	LT CRL	LT CRL
BTZ	4	0	0%	1.10	UGL	LT CRL	LT CRL	LT CRL
C6H6	4	0	0%	1.92	UGL	LT CRL	LT CRL	LT CRL
CCL4	10	0	0%	1.69 1.00	UGL	LT CRL	LT CRL	LT CRL
CH2CL2	4	0	0%	2.48	UGL	LT CRL	LT CRL	LT CRL
CHCL3	10	6	60%	1.88	UGL	LT CRL	LT CRL	10.000
CL	42	42	100%		MGL	307.76	210.00	545.000
CLC6H5	4	0	0%	1.36	UGL	LT CRL	LT CRL	LT CRL
CLDAN	17	0	0%	0.152	UGL	LT CRL	LT CRL	LT CRL
CPMS	32	0	0%	1.08 20.0 5.69	UGL	LT CRL	LT CRL	LT CRL
CPMSO	32	0	0%	1.98 20.0 11.5	UGL	LT CRL	LT CRL	LT CRL
CPMSO2	32	0	0%	2.24 20.0 7.46	UGL	LT CRL	LT CRL	LT CRL
DBCP	39	1	3%	0.130 0.200 0.195	UGL	LT CRL	LT CRL	0.289
DCPD	39	0	0%	9.31 1.00 5.00	UGL	LT CRL	LT CRL	LT CRL
DIMP	38	17	45%	10.1 10.0 0.650	UGL	LT CRL	LT CRL	9.760
DITH	32	0	0%	3.34 20.0 1.34	UGL	LT CRL	LT CRL	LT CRL
DLDRN	45	1	2%	0.054 0.200 0.050	UGL	LT CRL	LT CRL	0.062
DMDS	4	0	0%	1.16	UGL	LT CRL	LT CRL	LT CRL
DMMP	13	0	0%	16.3	UGL	LT CRL	LT CRL	LT CRL
ENDRN	45	0	0%	0.060 0.200 0.050	UGL	LT CRL	LT CRL	LT CRL
ETC6H5	4	0	0%	0.620	UGL	LT CRL	LT CRL	LT CRL
F	43	43	100%		MGL	2.93	1.60	4.890
HCCPD	17	0	0%	0.083	UGL	LT CRL	LT CRL	LT CRL
ISODR	45	0	0%	0.056 0.200 0.051	UGL	LT CRL	LT CRL	LT CRL
MEC6H5	10	0	0%	2.10 1.00	UGL	LT CRL	LT CRL	LT CRL
MIBK	13	0	0%	12.9	UGL	LT CRL	LT CRL	LT CRL
MXYL	4	0	0%	1.04	UGL	LT CRL	LT CRL	LT CRL
OPXYL	4	0	0%	1.34	UGL	LT CRL	LT CRL	LT CRL
OXAT	32	0	0%	1.35 20.0 2.38	UGL	LT CRL	LT CRL	LT CRL
PPDDE	17	0	0%	0.046	UGL	LT CRL	LT CRL	LT CRL
PPDDT	17	0	0%	0.059	UGL	LT CRL	LT CRL	LT CRL
SO4	17	17	100%		MGL	423.71	343.00	491.000
T12DCE	4	0	0%	1.80	UGL	LT CRL	LT CRL	LT CRL
TCLEE	10	0	0%	2.80 1.00	UGL	LT CRL	LT CRL	LT CRL
TRCLE	30	0	0%	1.30 1.00 0.560	UGL	LT CRL	LT CRL	LT CRL

ROCKY MOUNTAIN ARESENAL

NORTH BOUNDARY TEATMENT SYSTEM

GC/MS ANALYTICAL DATA

LABORATORY: ESE

		DATE:	01/13/88	01/13/88	01/13/88	01/20/88
ANALYTE	CODE	UNITS	PNAAIN	PNABIN	PNACIN	PNEFIN
1,1,1-TRICHLOROETHANE	111TCE	UGL	LT 5.0	LT 5.0	LT 5.0	LT 5.0
1,1,2,2-TETRACHLOROETHANE	TCLEA	UGL	LT 5.0	LT 5.0	LT 5.0	LT 5.0
1,1,2-TRICHLOROETHANE	112TCE	UGL	LT 5.0	LT 5.0	LT 5.0	LT 5.0
1,1-DICHLOROETHANE	11DCLE	UGL	LT 5.0	LT 5.0	LT 5.0	LT 5.0
1,1-DICHLOROETHYLENE	11DCE	UGL	LT 5.0	LT 5.0	LT 5.0	LT 5.0
1,2,4-TRICHLOROBENZENE	124TCB	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
1,2,-DICHLOROETHYLENE	12DCE	UGL	LT 5.0	LT 5.0	LT 5.0	LT 5.0
1,2-DICHLOROBENZENE	1D2CLB	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
1,2-DICHLOROETHANE	12DCLE	UGL	LT 5.0	LT 5.0	LT 5.0	LT 5.0
1,2-DICHLOROPROPANE	12DCLP	UGL	LT 5.0	LT 5.0	LT 5.0	LT 5.0
1,3-DICHLOROBENZENE	13DCLB	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
1,4-DICHLOROBENZENE	14DCLB	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
2,4,5-TRICHLOROPHENOL	245TCP	UGL	LT 50.0	LT 50.0	LT 50.0	LT 50.0
2,4,6-TRICHLOROPHENOL	246TCP	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
2,4-DICHLOROPHENOL	24DCLP	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
2,4-DIMETHYLPHENOL	24DMPN	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
2,4-DINITROPHENOL	24DNP	UGL	LT 50.0	LT 50.0	LT 50.0	LT 50.0
2,4-DINITROTOLUENE	24DNT	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
2,6-DINITROTOLUENE	26DNT	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
2-BUTONONE	BUT	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
2-CHLORONAPHTHALENE	2CNAP	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
2-CHLOROPHENOL	2CLP	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
2-METHYLNAPHTHALENE	2MNAP	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
2-METHYL-4,6-DINITROPHENOL	46DN2C	UGL	LT 50.0	LT 50.0	LT 50.0	LT 50.0
2-MYTHYLPHENOL	2MP	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
2-NITROANILINE	?	UGL	LT 50.0	LT 50.0	LT 50.0	LT 50.0
2-NITROPHENOL	2NP	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
3,3-DICHLOROBENZIDINE	?	UGL	LT 20.0	LT 20.0	LT 20.0	LT 20.0
3,METHYL-2-PENTANONE	3M2PNO	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
3-NITROANILINE	?	UGL	LT 50.0	LT 50.0	LT 50.0	LT 50.0
4-BROMOPHENYLPHENYL ETHER	4BRPPE	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
4-CHLOROANILINE	?	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
4-CHLOROPHENYLPHENYL ETHER	4CLPPE	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
4-CHLORO-3-METHYLPHENOL	?	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
4-METHYL PHENOL	4MP	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
4-NITROANILINE	4NANIL	UGL	LT 50.0	LT 50.0	LT 50.0	LT 50.0
4-NITROPHENOL	4NP	UGL	LT 50.0	LT 50.0	LT 50.0	LT 50.0
ACENAPHTENE	ANAPNE	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
ACENAPHTHYLENE	ANAPYL	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
ACETONE	ACET	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
ANTHRACENE	ANTRC	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0

ROCKY MOUNTAIN ARESENAL

NORTH BOUNDARY TEATMENT SYSTEM

GC/MS ANALYTICAL DATA

LABORATORY: ESE

		DATE:	01/13/88	01/13/88	01/13/88	01/20/88
ANALYTE	CODE	UNITS	PNAAIN	PNABIN	PNACIN	PNEFIN
BENZENE	C6H6	UGL	LT 5.0	LT 5.0	LT 5.0	LT 5.0
BENZOIC ACID	BENZOA	UGL	LT 50.0	LT 50.0	LT 50.0	LT 50.0
BENZO(A)ANTHPACENE	BAANTR	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
BENZO(A)PYRENE	BAPYR	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
BENZO(B)FLUORANTENE	BBFANT	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
BENZO(GHI)PERYLENE	?	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
BENZO(K)FLUORANTHENE	BKFANT	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
BENZYL ALCOHOL	BZALC	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
BIS(2-CHLOROETHOXY) METHANE	B2CEXM	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
BIS(2-CHLOROETHYL) ETHER	B2CLEE	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
BIS(2-CHLOROISOPROPRYL) ETHER	B2CIPE	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
BIS(2-ETHYHEXYL) PHTHALATE	B2EHP	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
BROMODICHLOROMETHANE	BRDCLM	UGL	LT 5.0	LT 5.0	LT 5.0	LT 5.0
BROMOFORM	CHBR3	UGL	LT 5.0	LT 5.0	LT 5.0	LT 5.0
BROMOMETHANE	CH3BR	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
BUTHYLBENZYLPHTHALATE	BBZP	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
CARBON DISULFIDE	CS2	UGL	LT 5.0	LT 5.0	LT 5.0	LT 5.0
CARBON TETRACHLORIDE	CCL4	UGL	LT 5.0	LT 5.0	LT 5.0	LT 5.0
CHLOROBENZENE	CLC6H5	UGL	LT 5.0	LT 5.0	LT 5.0	LT 5.0
CHLOROETHANE	C2H5CL	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
CHLOROFORM	CHCL3	UGL	5.8	21.0	LT 5.0	LT 5.0
CHLOROMETHANE	CH3CL	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
CHRYSENE	CHRY	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
CIS-1,3-DICHLOROPROPYLENE	C13DCP	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
DIBENZOFURAN	DBZFUR	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
DIBENZO(A,H)ANTHRACENE	DBAHA	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
DIBROMOCHLOROMETHANE	DBRCLM	UGL	LT 5.0	LT 5.0	LT 5.0	LT 5.0
DIMETHYL PHTHALATE	DMP	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
DIMETHYL PTHALATE	?	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
DIOCTYPHTHALATE	?	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
DI-N-BUTYL PHTHALATE	DNBP	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
ETHYLBENZENE	ETC6H5	UGL	LT 5.0	LT 5.0	LT 5.0	LT 5.0
FLUORANTHENE	FANT	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
FLUORENE	FLRENE	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
HEXACHLOROBENZENE	CL6CB	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
HEXACHLOROBUTADIENE	HCBD	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
HEXACHLOROCYCLOPENTADIENE	CL6CP	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
HEXACHLOROETHANE	CL6ET	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
INDENO(1,2,3-C,D)PYRENE	ICDPRY	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
ISOPHORONE	ISOPHR	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
METHYLENE CHLORIDE	CH2CL2	UGL	LT 5.0	LT 5.0	LT 5.0	LT 5.0

ROCKY MOUNTAIN ARESENAL

NORTH BOUNDARY TEATMENT SYSTEM

GC/MS ANALYTICAL DATA

LABORATORY: ESE

		DATE:	01/13/88	01/13/88	01/13/88	01/20/88
ANALYTE	CODE	UNITS	PNAAIN	PNABIN	PNACIN	PNEFIN
NAPHTHALENE	NAP	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
NITROBENZENE	NB	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
N-NITROSODI-N-PROPYLAMINE	NNDNPA	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
N-NITROSOPENTLYISOPENTYLAMINE	NNPIPA	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
PENTACHLOROPHENOL	PCP	UGL	LT 50.0	LT 50.0	LT 50.0	LT 50.0
PHENANTHRENE	PHANTR	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
PHENOL	PHENOL	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
PYRENE	PYR	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
STYRENE	STYR	UGL	LT 5.0	LT 5.0	LT 5.0	LT 5.0
TETRACHLOROETHYLENE	TCLEE	UGL	50.0	12.0	LT 5.0	LT 5.0
TOLUENE	MEC6H5	UGL	LT 5.0	LT 5.0	LT 5.0	LT 5.0
TRANS-1,3-DICHLOROPROPENE	T13DCP	UGL	LT 5.0	LT 5.0	LT 5.0	LT 5.0
TRICHLOROETHYLENE	TRCLE	UGL	6.1	LT 5.0	LT 5.0	LT 5.0
VINYL ACETATE	?	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
VINYL CHLORIDE	C2H3CL	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0
XYLENES, TOTAL	XYLEN	UGL	LT 5.0	LT 5.0	LT 5.0	LT 5.0
?-HEXANONE	?	UGL	LT 10.0	LT 10.0	LT 10.0	LT 10.0

APPENDIX C

DEWATERING WELL DATA

09/26/89
R.I.C.

FY 88 STATISTICAL SUMMARY
NORTH BOUNDARY DEWATERING WELLS

ANALYTE: ALDRN
CERTIFIED REPORTING LIMIT (LT): 0.05

WELL NO.	TOT SAMP	SAMP >CRL	% > CRL	UOM	MEAN	LOW VALUE	HIGH VALUE
31	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
32	1	1	100%	UGL	0.631	0.631	0.631
33	1	1	100%	UGL	0.553	0.553	0.553
34	1	1	100%	UGL	0.531	0.531	0.531
35	1	1	100%	UGL	0.670	0.670	0.670
1	2	1	50%	UGL	*	LT CRL	0.461
2	2	1	50%	UGL	*	LT CRL	0.319
3	2	0	0%	UGL	LT CRL	LT CRL	LT CRL
4	2	2	100%	UGL	5.641	0.281	11.000
5	2	0	0%	UGL	LT CRL	LT CRL	LT CRL
6	2	1	50%	UGL	*	LT CRL	0.640
7	2	0	0%	UGL	LT CRL	LT CRL	LT CRL
8	2	0	0%	UGL	LT CRL	LT CRL	LT CRL
9	2	0	0%	UGL	LT CRL	LT CRL	LT CRL
10	2	0	0%	UGL	LT CRL	LT CRL	LT CRL
11	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
12	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
13	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
14	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
15	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
16	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
17	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
18	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
19	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
20	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
21	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
22	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
23	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
24	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
25	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
26	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
27	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
28	1	0	0%	UGL	LT CRL	LT CRL	LT CRL

09/26/89
R.I.C.

FY 88 STATISTICAL SUMMARY
NORTH BOUNDARY DEWATERING WELLS

ANALYTE: CHLORIDE
CERTIFIED REPORTING LIMIT (LT): 0.72

WELL NO.	TOT SAMP	SAMP >CRL	% > CRL	UOM	MEAN	LOW VALUE	HIGH VALUE
31	1	1	100%	MGL	270.000	270.000	270.000
32	1	1	100%	MGL	510.000	510.000	510.000
33	1	1	100%	MGL	800.000	800.000	800.000
34	1	1	100%	MGL	910.000	910.000	910.000
35	1	1	100%	MGL	270.000	270.000	270.000
1	2	2	100%	MGL	235.000	220.000	250.000
2	2	2	100%	MGL	425.000	420.000	430.000
3	2	2	100%	MGL	995.000	890.000	1100.00
4	2	2	100%	MGL	1600.00	1500.00	1700.00
5	2	2	100%	MGL	1250.00	1200.00	1300.00
6	2	2	100%	MGL	715.000	690.000	740.000
7	2	2	100%	MGL	360.000	340.000	380.000
8	2	2	100%	MGL	250.000	230.000	270.000
9	2	2	100%	MGL	150.000	140.000	160.000
10	2	2	100%	MGL	145.000	130.000	160.000
11	1	1	100%	MGL	110.000	110.000	110.000
12	1	1	100%	MGL	110.000	110.000	110.000
13	1	1	100%	MGL	110.000	110.000	110.000
14	1	1	100%	MGL	100.000	100.000	100.000
15	1	1	100%	MGL	95.000	95.000	95.000
21	1	1	100%	MGL	120.000	120.000	120.000
22	1	1	100%	MGL	94.000	94.000	94.000
23	1	1	100%	MGL	100.000	100.000	100.000
24	1	1	100%	MGL	110.000	110.000	110.000
25	1	1	100%	MGL	110.000	110.000	110.000
26	1	1	100%	MGL	94.000	94.000	94.000
27	1	1	100%	MGL	120.000	120.000	120.000
28	1	1	100%	MGL	320.000	320.000	320.000

09/26/89
R.I.C.

FY 88 STATISTICAL SUMMARY
NORTH BOUNDARY DEWATERING WELLS

ANALYTE: COMB. ORGANO-SULFUR
CERTIFIED REPORTING LIMIT (LT): 24.65

WELL NO.	TOT SAMP	SAMP >CRL	% > CRL	UOM	MEAN	LOW VALUE	HIGH VALUE
31	1	0	0%		LT CRL	LT CRL	LT CRL
32	1	0	0%		LT CRL	LT CRL	LT CRL
33	1	1	100%		32.490	32.490	32.490
34	1	1	100%		42.490	42.490	42.490
35	1	0	0%		LT CRL	LT CRL	LT CRL
1	3	1	33%		*	LT CRL	24.660
2	3	1	33%		*	LT CRL	26.760
3	2	1	50%		*	LT CRL	31.190
4	3	2	67%		*	LT CRL	77.190
5	2	2	100%		99.790	91.590	107.990
6	1	1	100%		135.600	135.600	135.600
7	1	1	100%		121.600	121.600	121.600
8	1	1	100%		94.000	94.000	94.000
9	1	1	100%		60.770	60.770	60.770
10	1	1	100%		41.520	41.520	41.520
11	1	1	100%		32.450	32.450	32.450
12	1	0	0%		LT CRL	LT CRL	LT CRL
13	1	0	0%		LT CRL	LT CRL	LT CRL
14	1	0	0%		LT CRL	LT CRL	LT CRL
15	1	0	0%		LT CRL	LT CRL	LT CRL
16	1	0	0%		LT CRL	LT CRL	LT CRL
17	1	0	0%		LT CRL	LT CRL	LT CRL
18	1	0	0%		LT CRL	LT CRL	LT CRL
19	1	0	0%		LT CRL	LT CRL	LT CRL
20	1	0	0%		LT CRL	LT CRL	LT CRL
21	1	0	0%		LT CRL	LT CRL	LT CRL
22	1	0	0%		LT CRL	LT CRL	LT CRL
23	1	0	0%		LT CRL	LT CRL	LT CRL
24	1	0	0%		LT CRL	LT CRL	LT CRL
25	1	0	0%		LT CRL	LT CRL	LT CRL
26	1	0	0%		LT CRL	LT CRL	LT CRL
27	1	0	0%		LT CRL	LT CRL	LT CRL
28	1	0	0%		LT CRL	LT CRL	LT CRL

09/26/89
R.I.C.

FY 88 STATISTICAL SUMMARY
NORTH BOUNDARY DEWATERING WELLS

ANALYTE: DBCP
CERTIFIED REPORTING LIMIT (LT): 0.195

WELL NO.	TOT SAMP	SAMP >CRL	% > CRL	UOM	MEAN	LOW VALUE	HIGH VALUE
31	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
32	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
33	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
34	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
35	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
1	2	0	0%	UGL	LT CRL	LT CRL	LT CRL
2	2	0	0%	UGL	LT CRL	LT CRL	LT CRL
3	2	0	0%	UGL	LT CRL	LT CRL	LT CRL
4	2	0	0%	UGL	LT CRL	LT CRL	LT CRL
5	2	2	100%	UGL	1.535	1.170	1.900
6	2	1	50%	UGL	*	LT CRL	1.950
7	3	2	67%	UGL	*	LT CRL	2.420
8	3	2	67%	UGL	*	LT CRL	3.990
9	2	2	100%	UGL	1.605	1.170	2.040
10	2	2	100%	UGL	1.107	0.933	1.280
11	1	1	100%	UGL	0.419	0.419	0.419
12	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
13	1	1	100%	UGL	0.271	0.271	0.271
14	1	1	100%	UGL	0.368	0.368	0.368
15	1	1	100%	UGL	0.281	0.281	0.281
16	1	1	100%	UGL	0.231	0.231	0.231
17	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
18	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
19	1	1	100%	UGL	0.407	0.407	0.407
20	1	1	100%	UGL	0.238	0.238	0.238
21	1	1	100%	UGL	0.222	0.222	0.222
22	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
23	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
24	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
25	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
26	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
27	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
28	1	0	0%	UGL	LT CRL	LT CRL	LT CRL

09/26/89
R.I.C.

FY 88 STATISTICAL SUMMARY
NORTH BOUNDARY DEWATERING WELLS

ANALYTE: DCPD
CERTIFIED REPORTING LIMIT (LT): 5.0

WELL NO.	TOT SAMP	SAMP >CRL	% > CRL	UOM	MEAN	LOW VALUE	HIGH VALUE
31	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
32	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
33	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
34	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
35	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
1	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
2	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
3	2	2	100%	UGL	345.000	240.000	450.000
4	1	1	100%	UGL	1100.00	1100.00	1100.00
5	1	1	100%	UGL	1100.00	1100.00	1100.00
6	2	2	100%	UGL	395.000	390.000	400.000
7	2	2	100%	UGL	134.000	127.000	141.000
8	2	2	100%	UGL	74.250	63.800	84.700
9	2	2	100%	UGL	14.950	11.500	18.400
10	2	2	100%	UGL	25.900	12.900	38.900
12	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
13	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
14	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
15	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
16	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
17	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
18	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
19	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
20	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
21	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
22	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
23	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
24	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
25	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
26	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
27	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
28	1	0	0%	UGL	LT CRL	LT CRL	LT CRL

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FY 88 STATISTICAL SUMMARY
NORTH BOUNDARY DEWATERING WELLS

ANALYTE: DIMP
CERTIFIED REPORTING LIMIT (LT): 0.65

WELL NO.	TOT SAMP	SAMP >CRL	% > CRL	UOM	MEAN	LOW VALUE	HIGH VALUE
31	1	1	100%	UGL	2.220	2.220	2.220
32	1	1	100%	UGL	29.900	29.900	29.900
33	1	1	100%	UGL	450.000	450.000	450.000
34	1	1	100%	UGL	850.000	850.000	850.000
35	1	1	100%	UGL	710.000	710.000	710.000
1	2	2	100%	UGL	370.000	120.000	620.000
2	2	2	100%	UGL	1250.00	1200.00	1300.00
3	2	2	100%	UGL	1350.00	1200.00	1500.00
4	2	2	100%	UGL	1300.00	1200.00	1400.00
5	2	2	100%	UGL	1150.00	1100.00	1200.00
6	3	3	100%	UGL	525.810	7.430	840.000
7	2	2	100%	UGL	375.000	350.000	400.000
8	2	2	100%	UGL	290.000	210.000	370.000
9	2	2	100%	UGL	150.000	130.000	170.000
10	2	2	100%	UGL	195.000	180.000	210.000
11	1	1	100%	UGL	130.000	130.000	130.000
12	1	1	100%	UGL	55.300	55.300	55.300
13	1	1	100%	UGL	57.600	57.600	57.600
14	1	1	100%	UGL	52.800	52.800	52.800
15	1	1	100%	UGL	45.000	45.000	45.000
16	1	1	100%	UGL	40.300	40.300	40.300
17	1	1	100%	UGL	10.900	10.900	10.900
18	1	1	100%	UGL	11.700	11.700	11.700
19	1	1	100%	UGL	4.860	4.860	4.860
20	1	1	100%	UGL	3.540	3.540	3.540
21	1	1	100%	UGL	3.890	3.890	3.890
22	1	1	100%	UGL	1.640	1.640	1.640
23	1	1	100%	UGL	1.660	1.660	1.660
24	1	1	100%	UGL	0.941	0.941	0.941
25	1	1	100%	UGL	1.470	1.470	1.470
26	1	1	100%	UGL	1.410	1.410	1.410
27	1	1	100%	UGL	1.270	1.270	1.270
28	1	0	0%	UGL	LT CRL	LT CRL	LT CRL

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FY 88 STATISTICAL SUMMARY
NORTH BOUNDARY DEWATERING WELLS

ANALYTE: DLDRN
CERTIFIED REPORTING LIMIT (LT): 0.05

WELL NO.	TOT SAMP	SAMP >CRL	% > CRL	UOM	MEAN	LOW VALUE	HIGH VALUE
31	1	1	100%	UGL	0.172	0.172	0.172
32	1	1	100%	UGL	0.737	0.737	0.737
33	1	1	100%	UGL	0.729	0.729	0.729
34	1	1	100%	UGL	0.697	0.697	0.697
35	1	1	100%	UGL	0.550	0.550	0.550
1	2	2	100%	UGL	0.426	0.411	0.441
2	2	2	100%	UGL	0.344	0.229	0.459
3	2	2	100%	UGL	0.965	0.530	1.400
4	2	1	50%	UGL	*	LT CRL	2.600
5	2	2	100%	UGL	4.250	4.100	4.400
6	2	1	50%	UGL	*	LT CRL	5.100
7	2	2	100%	UGL	4.050	3.900	4.200
8	2	2	100%	UGL	3.100	3.000	3.200
9	2	2	100%	UGL	1.800	1.500	2.100
10	2	2	100%	UGL	1.050	1.000	1.100
11	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
12	1	1	100%	UGL	0.415	0.415	0.415
13	1	1	100%	UGL	0.500	0.500	0.500
14	1	1	100%	UGL	0.275	0.275	0.275
15	1	1	100%	UGL	0.335	0.335	0.335
16	1	1	100%	UGL	0.082	0.082	0.082
17	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
18	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
19	1	1	100%	UGL	0.090	0.090	0.090
20	1	1	100%	UGL	0.225	0.225	0.225
21	1	1	100%	UGL	0.241	0.241	0.241
22	1	1	100%	UGL	0.204	0.204	0.204
23	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
24	1	1	100%	UGL	0.101	0.101	0.101
25	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
26	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
27	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
28	1	0	0%	UGL	LT CRL	LT CRL	LT CRL

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FY 88 STATISTICAL SUMMARY
NORTH BOUNDARY DEWATERING WELLS

ANALYTE: ENDRN
CERTIFIED REPORTING LIMIT (LT): 0.05

WELL NO.	TOT SAMP	SAMP >CRL	% > CRL	UOM	MEAN	LOW VALUE	HIGH VALUE
31	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
32	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
33	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
34	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
35	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
1	2	0	0%	UGL	LT CRL	LT CRL	LT CRL
2	2	1	50%	UGL	*	LT CRL	0.124
3	2	1	50%	UGL	*	LT CRL	1.300
4	2	2	100%	UGL	2.750	2.700	2.800
5	2	1	50%	UGL	*	LT CRL	2.400
6	2	2	100%	UGL	4.050	3.800	4.300
7	2	2	100%	UGL	3.750	3.500	4.000
8	2	2	100%	UGL	2.950	2.700	3.200
9	2	2	100%	UGL	1.450	1.400	1.500
10	2	2	100%	UGL	4.350	1.000	7.700
11	1	1	100%	UGL	0.610	0.610	0.610
12	1	1	100%	UGL	0.383	0.383	0.383
13	1	1	100%	UGL	0.563	0.563	0.563
14	1	1	100%	UGL	0.303	0.303	0.303
15	1	1	100%	UGL	0.444	0.444	0.444
16	1	1	100%	UGL	0.084	0.084	0.084
17	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
18	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
19	1	1	100%	UGL	0.042	0.042	0.042
20	1	1	100%	UGL	0.056	0.056	0.056
21	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
22	1	1	100%	UGL	0.079	0.079	0.079
23	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
24	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
25	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
26	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
27	1	0	0%	UGL	LT CRL	LT CRL	LT CRL
28	1	0	0%	UGL	LT CRL	LT CRL	LT CRL

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FY 88 STATISTICAL SUMMARY
NORTH BOUNDARY DEWATERING WELLS

ANALYTE: FLUORIDE
CERTIFIED REPORTING LIMIT (LT): 0.482

WELL NO.	TOT SAMP	SAMP >CRL	% > CRL	UOM	MEAN	LOW VALUE	HIGH VALUE
31	1	1	100%	MGL	6.120	6.120	6.120
32	1	1	100%	MGL	5.580	5.580	5.580
33	0	0	0	MGL	*	*	*
34	1	1	100%	MGL	5.450	5.450	5.450
35	1	1	100%	MGL	5.770	5.770	5.770
1	2	2	100%	MGL	6.965	6.870	7.060
2	2	2	100%	MGL	4.590	3.520	5.660
3	2	2	100%	MGL	5.845	4.400	7.290
4	2	2	100%	MGL	5.450	5.400	5.500
5	2	2	100%	MGL	7.195	5.700	8.690
6	2	2	100%	MGL	5.135	4.280	5.990
7	2	2	100%	MGL	3.880	3.430	4.330
8	2	2	100%	MGL	3.745	3.510	3.980
9	2	2	100%	MGL	3.610	3.410	3.810
10	2	2	100%	MGL	3.730	3.390	4.070
11	1	1	100%	MGL	3.660	3.660	3.660
12	1	1	100%	MGL	4.100	4.100	4.100
13	1	1	100%	MGL	4.020	4.020	4.020
14	1	1	100%	MGL	4.750	4.750	4.750
15	1	1	100%	MGL	4.190	4.190	4.190
21	1	1	100%	MGL	2.230	2.230	2.230
22	1	1	100%	MGL	1.980	1.980	1.980
23	1	1	100%	MGL	2.230	2.230	2.230
24	1	1	100%	MGL	2.530	2.530	2.530
25	1	1	100%	MGL	2.710	2.710	2.710
26	1	1	100%	MGL	2.530	2.530	2.530
27	1	1	100%	MGL	2.900	2.900	2.900
28	1	1	100%	MGL	4.670	4.670	4.670

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FY 88 STATISTICAL SUMMARY
NORTH BOUNDARY DEWATERING WELLS

ANALYTE: FLUORIDE
CERTIFIED REPORTING LIMIT (LT): 0.482

WELL NO.	TOT SAMP	SAMP >CRL	% > CRL	UOM	MEAN	LOW VALUE	HIGH VALUE
31	1	1	100%	MGL	6.120	6.120	6.120
32	1	1	100%	MGL	5.580	5.580	5.580
33	1	1	100%	MGL	540.000	540.000	540.000
34	1	1	100%	MGL	5.450	5.450	5.450
35	1	1	100%	MGL	5.770	5.770	5.770
1	2	2	100%	MGL	6.965	6.870	7.060
2	2	2	100%	MGL	4.590	3.520	5.660
3	2	2	100%	MGL	5.845	4.400	7.290
4	2	2	100%	MGL	5.450	5.400	5.500
5	2	2	100%	MGL	7.195	5.700	8.690
6	2	2	100%	MGL	5.135	4.280	5.990
7	2	2	100%	MGL	3.880	3.430	4.330
8	2	2	100%	MGL	3.745	3.510	3.980
9	2	2	100%	MGL	3.610	3.410	3.810
10	2	2	100%	MGL	3.730	3.390	4.070
11	1	1	100%	MGL	3.660	3.660	3.660
12	1	1	100%	MGL	4.100	4.100	4.100
13	1	1	100%	MGL	4.020	4.020	4.020
14	1	1	100%	MGL	4.750	4.750	4.750
15	1	1	100%	MGL	4.190	4.190	4.190
21	1	1	100%	MGL	2.230	2.230	2.230
22	1	1	100%	MGL	1.980	1.980	1.980
23	1	1	100%	MGL	2.230	2.230	2.230
24	1	1	100%	MGL	2.530	2.530	2.530
25	1	1	100%	MGL	2.710	2.710	2.710
26	1	1	100%	MGL	2.530	2.530	2.530
27	1	1	100%	MGL	2.900	2.900	2.900
28	1	1	100%	MGL	4.670	4.670	4.670

NORTH BOUNDARY DEWATERING WELLS - FY88
TREATMENT TECHNOLOGY

USER NO.	ORG.	SAMPLE DATE	ANALYTE	MTH NO.	BL	CONC.	UOM
PNDW31	UB	88146	ALDRN	KK8	LT	0.050	UGL
	UB	88146	CL	HH8A		270	MGL
	UB	88146	CPMS	AAA8	LT	5.690	UGL
	UB	88146	CPMSO	AAA8	LT	11.500	UGL
	UB	88146	CPMSO2	AAA8	LT	7.460	UGL
	UB	88146	DBCP	AY8	LT	0.195	UGL
	UB	88146	DCPD	P8	LT	5.000	UGL
	UB	88146	DIMP	AW8A		2.220	UGL
	UB	88146	DLDRN	KK8		0.172	UGL
	UB	88146	ENDRN	KK8	LT	0.050	UGL
	UB	88146	F	HH8A		6.120	MGL
PNDW32	UB	88146	ALDRN	KK8		0.631	UGL
	UB	88146	CL	HH8A		510	MGL
	UB	88146	CPMS	AAA8	LT	5.690	UGL
	UB	88146	CPMSO	AAA8	LT	11.500	UGL
	UB	88146	CPMSO2	AAA8	LT	7.460	UGL
	UB	88146	DBCP	AY8	LT	0.195	UGL
	UB	88146	DCPD	P8	LT	5.000	UGL
	UB	88146	DIMP	AW8A		29.900	UGL
	UB	88146	DLDRN	KK8		0.737	UGL
	UB	88146	ENDRN	KK8	LT	0.050	UGL
	UB	88146	F	HH8A		5.580	MGL
PNDW33	UB	88146	ALDRN	KK8		0.553	UGL
	UB	88146	CL	HH8A		800	MGL
	UB	88146	CPMS	AAA8	LT	5.690	UGL

USER NO.	ORG.	SAMPLE DATE	ANALYTE	MTH NO.	BL	CONC.	UOM
PNDW33	UB	88146	CPMSO	AAA8	LT	11.500	UGL
	UB	88146	CPMSO2	AAA8		15.300	UGL
	UB	88146	DBCP	AY8	LT	0.195	UGL
	UB	88146	DCPD	P8	LT	5.000	UGL
	UB	88146	DIMP	AW8A		450	UGL
	UB	88146	DLDRN	KK8		0.729	UGL
	UB	88146	ENDRN	KK8	LT	0.050	UGL
	UB	88146	F	HH8A		540	MGL
PNDW34	UB	88146	ALDRN	KK8		0.531	UGL
	UB	88146	CL	HH8A		910	MGL
	UB	88146	CPMS	AAA8	LT	5.690	UGL
	UB	88146	CPMSO	AAA8	LT	11.500	UGL
	UB	88146	CPMSO2	AAA8		25.300	UGL
	UB	88146	DBCP	AY8	LT	0.195	UGL
	UB	88146	DCPD	P8	LT	5.000	UGL
	UB	88146	DIMP	AW8A		850	UGL
	UB	88146	DLDRN	KK8		0.697	UGL
	UB	88146	ENDRN	KK8	LT	0.050	UGL
	UB	88146	F	HH8A		5.450	MGL
PNDW35	UB	88146	ALDRN	KK8		0.670	UGL
	UB	88146	CL	HH8A		270	MGL
	UB	88146	CPMS	AAA8	LT	5.690	UGL
	UB	88146	CPMSO	AAA8	LT	11.500	UGL
	UB	88146	CPMSO2	AAA8	LT	7.460	UGL

USER NO.	ORG.	SAMPLE DATE	ANALYTE	MTH NO.	BL	CONC.	UOM
PNDW35	UB	88146	DBCP	AY8	LT	0.195	UGL
	UB	88146	DCPD	P8	LT	5.000	UGL
	UB	88146	DIMP	AW8A		710	UGL
	UB	88146	DLDRN	KK8		0.550	UGL
	UB	88146	ENDRN	KK8	LT	0.050	UGL
	UB	88146	F	HH8A		5.770	MGL
PNDW01	UB	88118	ALDRN	KK8		0.461	UGL
	UB	88265	ALDRN	KK8	LT	0.050	UGL
	UB	88118	CL	HH8A		220	MGL
	UB	88265	CL	HH8A		250	MGL
	UB	88118	CPMS	AAA8	LT	5.690	UGL
	UB	88258	CPMS	AAA8	LT	5.690	UGL
	UB	88265	CPMS	AAA8	LT	5.690	UGL
	UB	88118	CPMSO	AAA8	LT	11.500	UGL
	UB	88258	CPMSO	AAA8	LT	11.500	UGL
	UB	88265	CPMSO	AAA8	LT	11.500	UGL
	UB	88118	CPMSO2	AAA8		7.470	UGL
	UB	88258	CPMSO2	AAA8	LT	7.460	UGL
	UB	88265	CPMSO2	AAA8	LT	7.460	UGL
	UB	88118	DBCP	AY8	LT	0.195	UGL
	UB	88265	DBCP	AY8	LT	0.195	UGL
	UB	88118	DCPD	P8	LT	5.000	UGL
	UB	88118	DIMP	AW8A		120	UGL
	UB	88265	DIMP	AW8A		620	UGL
	UB	88118	DLDRN	KK8		0.411	UGL
	UB	88265	DLDRN	KK8		0.441	UGL
	UB	88118	ENDRN	KK8	LT	0.050	UGL
	UB	88265	ENDRN	KK8	LT	0.050	UGL
	UB	88118	F	HH8A		6.870	MGL
	UB	88265	F	HH8A		7.060	MGL
PNDW02	UB	88104	ALDRN	KK8		0.319	UGL

USER NO.	ORG.	SAMPLE DATE	ANALYTE	MTH NO.	BL	CONC.	UOM
PNDW02	UB	88265	ALDRN	KK8	LT	0.050	UGL
	UB	88104	CL	HH8A		420	MGL
	UB	88265	CL	HH8A		430	MGL
	UB	88104	CPMS	AAA8	LT	5.690	UGL
	UB	88258	CPMS	AAA8	LT	5.690	UGL
	UB	88265	CPMS	AAA8	LT	5.690	UGL
	UB	88104	CPMSO	AAA8	LT	11.500	UGL
	UB	88258	CPMSO	AAA8	LT	11.500	UGL
	UB	88265	CPMSO	AAA8	LT	11.500	UGL
	UB	88104	CPMSO2	AAA8	LT	7.460	UGL
	UB	88258	CPMSO2	AAA8	LT	7.460	UGL
	UB	88265	CPMSO2	AAA8		9.570	UGL
	UB	88104	DBCP	AY8	LT	0.195	UGL
	UB	88265	DBCP	AY8	LT	0.195	UGL
	UB	88104	DCPD	P8	LT	5.000	UGL
	UB	88104	DIMP	AW8A		1,300	UGL
	UB	88265	DIMP	AW8A		1,200	UGL
	UB	88104	DLDRN	KK8		0.229	UGL
	UB	88265	DLDRN	KK8		0.459	UGL
	UB	88104	ENDRN	KK8	LT	0.050	UGL
	UB	88265	ENDRN	KK8		0.124	UGL
	UB	88104	F	HH8A		3.520	MGL
	UB	88265	F	HH8A		5.660	MGL
PNDW03	UB	88104	ALDRN	KK8	LT	0.050	UGL
	UB	88272	ALDRN	KK8	LT	0.050	UGL
	UB	88104	CL	HH8A		890	MGL
	UB	88272	CL	HH8A		1,100	MGL
	UB	88104	CPMS	AAA8	LT	5.690	UGL
	UB	88258	CPMS	AAA8	LT	5.690	UGL
	UB	88104	CPMSO	AAA8	LT	11.500	UGL
	UB	88258	CPMSO	AAA8	LT	11.500	UGL
	UB	88104	CPMSO2	AAA8		14.000	UGL
	UB	88258	CPMSO2	AAA8	LT	7.460	UGL
	UB	88104	DBCP	AY8	LT	0.195	UGL

USER NO.	ORG.	SAMPLE DATE	ANALYTE	MTH NO.	BL	CONC.	UOM
PNDW03	UB	88272	DBCP	AY8	LT	0.195	UGL
	UB	88104	DCPD	P8		240	UGL
	UB	88272	DCPD	P8		450	UGL
	UB	88104	DIMP	AW8A		1,200	UGL
	UB	88272	DIMP	AW8A		1,500	UGL
	UB	88104	DLDRN	KK8		0.530	UGL
	UB	88272	DLDRN	KK8		1.400	UGL
	UB	88104	ENDRN	KK8	LT	0.050	UGL
	UB	88272	ENDRN	KK8		1.300	UGL
	UB	88104	F	HH8A		4.400	MGL
	UB	88272	F	HH8A		7.290	MGL
PNDW04	UB	88104	ALDRN	KK8		11.000	UGL
	UB	88265	ALDRN	KK8		0.281	UGL
	UB	88104	CL	HH8A		1,500	MGL
	UB	88265	CL	HH8A		1,700	MGL
	UB	88104	CPMS	AAA8	LT	5.690	UGL
	UB	88258	CPMS	AAA8	LT	5.690	UGL
	UB	88265	CPMS	AAA8	LT	5.690	UGL
	UB	88104	CPMSO	AAA8		15.500	UGL
	UB	88258	CPMSO	AAA8	LT	11.500	UGL
	UB	88265	CPMSO	AAA8	LT	11.500	UGL
	UB	88104	CPMSO2	AAA8		46.000	UGL
	UB	88258	CPMSO2	AAA8	LT	7.460	UGL
	UB	88265	CPMSO2	AAA8		60.000	UGL
	UB	88104	DBCP	AY8	LT	0.195	UGL
	UB	88265	DBCP	AY8	LT	0.195	UGL
	UB	88104	DCPD	P8		1,100	UGL
	UB	88104	DIMP	AW8A		1,400	UGL
	UB	88265	DIMP	AW8A		1,200	UGL
	UB	88104	DLDRN	KK8		2.600	UGL
	UB	88265	DLDRN	KK8	LT	0.050	UGL
	UB	88104	ENDRN	KK8		2.700	UGL
	UB	88265	ENDRN	KK8		2.800	UGL
	UB	88104	F	HH8A		5.500	MGL

USER NO.	ORG.	SAMPLE DATE	ANALYTE	MTH NO.	BL	CONC.	UOM
PNDW04	UB	88265	F	HH8A		5.400	MGL
PNDW05	UB	88104	ALDRN	KK8	LT	0.050	UGL
	UB	88265	ALDRN	KK8	LT	0.050	UGL
	UB	88104	CL	HH8A		1,200	MGL
	UB	88265	CL	HH8A		1,300	MGL
	UB	88104	CPMS	AAA8	LT	5.690	UGL
	UB	88265	CPMS	AAA8	LT	5.690	UGL
	UB	88104	CPMSO	AAA8		41.800	UGL
	UB	88265	CPMSO	AAA8		47.000	UGL
	UB	88104	CPMSO2	AAA8		44.100	UGL
	UB	88265	CPMSO2	AAA8		55.300	UGL
	UB	88104	DBCP	AY8		1.170	UGL
	UB	88265	DBCP	AY8		1.900	UGL
	UB	88104	DCPD	P8		1,100	UGL
	UB	88104	DIMP	AW8A		1,100	UGL
	UB	88265	DIMP	AW8A		1,200	UGL
	UB	88104	DLDRN	KK8		4.400	UGL
	UB	88265	DLDRN	KK8		4.100	UGL
	UB	88104	ENDRN	KK8	LT	0.050	UGL
	UB	88265	ENDRN	KK8		2.400	UGL
	UB	88104	F	HH8A		5.700	MGL
	UB	88265	F	HH8A		8.690	MGL
PNDW06	UB	88104	ALDRN	KK8		0.640	UGL
	UB	88272	ALDRN	KK8	LT	0.050	UGL
	UB	88104	CL	HH8A		740	MGL
	UB	88272	CL	HH8A		690	MGL
	UB	88104	CPMS	AAA8		18.900	UGL
	UB	88104	CPMSO	AAA8		75.100	UGL
	UB	88104	CPMSO2	AAA8		41.600	UGL
	UB	88104	DBCP	AY8		1.950	UGL
	UB	88272	DBCP	AY8	LT	0.195	UGL

USER NO.	ORG.	SAMPLE DATE	ANALYTE	MTH NO.	BL	CONC.	UOM
PNDW06	UB	88104	DCPD	P8		400	UGL
	UB	88272	DCPD	P8		390	UGL
	UB	88104	DIMP	AW8A		840	UGL
	UB	88265	DIMP	AW8A		7.430	UGL
	UB	88272	DIMP	AW8A		730	UGL
	UB	88104	DLDRN	KK8	LT	0.050	UGL
	UB	88272	DLDRN	KK8		5.100	UGL
	UB	88104	ENDRN	KK8		3.800	UGL
	UB	88272	ENDRN	KK8		4.300	UGL
	UB	88104	F	HH8A		4.280	MGL
	UB	88272	F	HH8A		5.990	MGL
PNDW07	UB	88113	ALDRN	KK8	LT	0.050	UGL
	UB	88272	ALDRN	KK8	LT	0.050	UGL
	UB	88111	CL	HH8A		340	MGL
	UB	88272	CL	HH8A		380	MGL
	UB	88111	CPMS	AAA8		30.000	UGL
	UB	88111	CPMSO	AAA8		72.200	UGL
	UB	88111	CPMSO2	AAA8		19.400	UGL
	UB	88111	DBCP	AY8		1.790	UGL
	UB	88153	DBCP	AY8	LT	0.195	UGL
	UB	88272	DBCP	AY8		2.420	UGL
	UB	88111	DCPD	P8		141	UGL
	UB	88272	DCPD	P8		127	UGL
	UB	88111	DIMP	AW8A		350	UGL
	UB	88272	DIMP	AW8A		400	UGL
	UB	88113	DLDRN	KK8		3.900	UGL
	UB	88272	DLDRN	KK8		4.200	UGL
	UB	88113	ENDRN	KK8		3.500	UGL
	UB	88272	ENDRN	KK8		4.000	UGL
	UB	88111	F	HH8A		3.430	MGL
	UB	88272	F	HH8A		4.330	MGL
PNDW08	UB	88113	ALDRN	KK8	LT	0.050	UGL

USER NO.	ORG.	SAMPLE DATE	ANALYTE	MTH NO.	BL	CONC.	UOM
PNDW08	UB	88272	ALDRN	KK8	LT	0.050	UGL
	UB	88111	CL	HH8A		270	MGL
	UB	88272	CL	HH8A		230	MGL
	UB	88111	CPMS	AAA8		14.100	UGL
	UB	88111	CPMSO	AAA8		67.800	UGL
	UB	88111	CPMSO2	AAA8		12.100	UGL
	UB	88111	DBCP	AY8		3.930	UGL
	UB	88153	DBCP	AY8	LT	0.195	UGL
	UB	88272	DBCP	AY8		3.990	UGL
	UB	88111	DCPD	P8		63.800	UGL
	UB	88272	DCPD	P8		84.700	UGL
	UB	88111	DIMP	AW8A		370	UGL
	UB	88272	DIMP	AW8A		210	UGL
	UB	88113	DLDRN	KK8		3.200	UGL
	UB	88272	DLDRN	KK8		3.000	UGL
	UB	88113	ENDRN	KK8		2.700	UGL
	UB	88272	ENDRN	KK8		3.200	UGL
	UB	88111	F	HH8A		3.510	MGL
	UB	88272	F	HH8A		3.980	MGL
PNDW09	UB	88113	ALDRN	KK8	LT	0.050	UGL
	UB	88272	ALDRN	KK8	LT	0.050	UGL
	UB	88111	CL	HH8A		140	MGL
	UB	88272	CL	HH8A		160	MGL
	UB	88111	CPMS	AAA8		7.320	UGL
	UB	88111	CPMSO	AAA8		45.500	UGL
	UB	88111	CPMSO2	AAA8		7.950	UGL
	UB	88111	DBCP	AY8		2.040	UGL
	UB	88272	DBCP	AY8		1.170	UGL
	UB	88111	DCPD	P8		18.400	UGL
	UB	88272	DCPD	P8		11.500	UGL
	UB	88111	DIMP	AW8A		170	UGL

USER NO.	ORG.	SAMPLE DATE	ANALYTE	MTH NO.	BL	CONC.	UOM
PNDW09	UB	88272	DIMP	AW8A		130	UGL
	UB	88113	DLDRN	KK8		2.100	UGL
	UB	88272	DLDRN	KK8		1.500	UGL
	UB	88113	ENDRN	KK8		1.500	UGL
	UB	88272	ENDRN	KK8		1.400	UGL
	UB	88111	F	HH8A		3.410	MGL
	UB	88272	F	HH8A		3.810	MGL
PNDW10	UB	88113	ALDRN	KK8	LT	0.050	UGL
	UB	88272	ALDRN	KK8	LT	0.050	UGL
	UB	88111	CL	HH8A		130	MGL
	UB	88272	CL	HH8A		160	MGL
	UB	88111	CPMS	AAA8		6.760	UGL
	UB	88111	CPMSO	AAA8		27.300	UGL
	UB	88111	CPMSO2	AAA8	LT	7.460	UGL
	UB	88111	DBCP	AY8		0.933	UGL
	UB	88272	DBCP	AY8		1.280	UGL
	UB	88111	DCPD	P8		12.900	UGL
	UB	88272	DCPD	P8		38.900	UGL
	UB	88111	DIMP	AW8A		180	UGL
	UB	88272	DIMP	AW8A		210	UGL
	UB	88113	DLDRN	KK8		1.000	UGL
	UB	88272	DLDRN	KK8		1.100	UGL
	UB	88113	ENDRN	KK8		7.700	UGL
	UB	88272	ENDRN	KK8		1.000	UGL
	UB	88111	F	HH8A		3.390	MGL
	UB	88272	F	HH8A		4.070	MGL
PNDW11	UB	88113	ALDRN	KK8	LT	0.050	UGL
	UB	88111	CL	HH8A		110	MGL
	UB	88111	CPMS	AAA8	LT	5.690	UGL
	UB	88111	CPMSO	AAA8		19.300	UGL

USER NO.	ORG.	SAMPLE DATE	ANALYTE	MTH NO.	BL	CONC.	UOM
PNDW11	UB	88111	CPMSO2	AAA8	LT	7.460	UGL
	UB	88111	DBCP	AY8		0.419	UGL
	UB	88111	DIMP	AW8A		130	UGL
	UB	88113	DLDRN	KK8	LT	0.050	UGL
	UB	88113	ENDRN	KK8		0.610	UGL
	UB	88111	F	HH8A		3.660	MGL
PNDW12	UB	88118	ALDRN	KK8	LT	0.050	UGL
	UB	88118	CL	HH8A		110	MGL
	UB	88118	CPMS	AAA8	LT	5.690	UGL
	UB	88118	CPMSO	AAA8	LT	11.500	UGL
	UB	88118	CPMSO2	AAA8	LT	7.460	UGL
	UB	88118	DBCP	AY8	LT	0.195	UGL
	UB	88118	DCPD	P8	LT	5.000	UGL
	UB	88118	DIMP	AW8A		55.300	UGL
	UB	88118	DLDRN	KK8		0.415	UGL
	UB	88118	ENDRN	KK8		0.383	UGL
	UB	88118	F	HH8A		4.100	MGL
PNDW13	UB	88118	ALDRN	KK8	LT	0.050	UGL
	UB	88118	CL	HH8A		110	MGL
	UB	88118	CPMS	AAA8	LT	5.690	UGL
	UB	88118	CPMSO	AAA8	LT	11.500	UGL
	UB	88118	CPMSO2	AAA8	LT	7.460	UGL
	UB	88118	DBCP	AY8		0.271	UGL
	UB	88118	DCPD	P8	LT	5.000	UGL

USER NO.	ORG.	SAMPLE DATE	ANALYTE	MTH NO.	BL	CONC.	UOM
PNDW13	UB	88118	DIMP	AW8A		57.600	UGL
	UB	88118	DLDRN	KK8		0.500	UGL
	UB	88118	ENDRN	KK8		0.563	UGL
	UB	88118	F	HH8A		4.020	MGL
PNDW14	UB	88118	ALDRN	KK8	LT	0.050	UGL
	UB	88118	CL	HH8A		100.000	MGL
	UB	88118	CPMS	AAA8	LT	5.690	UGL
	UB	88118	CPMSO	AAA8	LT	11.500	UGL
	UB	88118	CPMSO2	AAA8	LT	7.460	UGL
	UB	88118	DBCP	AY8		0.368	UGL
	UB	88118	DCPD	P8	LT	5.000	UGL
	UB	88118	DIMP	AW8A		52.800	UGL
	UB	88118	DLDRN	KK8		0.275	UGL
	UB	88118	ENDRN	KK8		0.303	UGL
	UB	88118	F	HH8A		4.750	MGL
PNDW15	UB	88118	ALDRN	KK8	LT	0.050	UGL
	UB	88118	CL	HH8A		95.000	MGL
	UB	88118	CPMS	AAA8	LT	5.690	UGL
	UB	88118	CPMSO	AAA8	LT	11.500	UGL
	UB	88118	CPMSO2	AAA8	LT	7.460	UGL
	UB	88118	DBCP	AY8		0.281	UGL
	UB	88118	DCPD	P8	LT	5.000	UGL
	UB	88118	DIMP	AW8A		45.000	UGL
	UB	88118	DLDRN	KK8		0.335	UGL

USER NO.	ORG.	SAMPLE DATE	ANALYTE	MTH NO.	BL	CONC.	UOM
PNDW15	UB	88118	ENDRN	KK8		0.444	UGL
	UB	88118	F	HH8A		4.190	MGL
PNDW16	UB	88125	ALDRN	KK8	LT	0.050	UGL
	UB	88125	CPMS	AAA8	LT	5.690	UGL
	UB	88125	CPMSO	AAA8	LT	11.500	UGL
	UB	88125	CPMSO2	AAA8	LT	7.460	UGL
	UB	88125	DBCP	AY8		0.231	UGL
	UB	88125	DCPD	P8	LT	5.000	UGL
	UB	88125	DIMP	AW8A		40.300	UGL
	UB	88125	DLDRN	KK8		0.082	UGL
	UB	88125	ENDRN	KK8		0.084	UGL
PNDW17	UB	88125	ALDRN	KK8	LT	0.050	UGL
	UB	88125	CPMS	AAA8	LT	5.690	UGL
	UB	88125	CPMSO	AAA8	LT	11.500	UGL
	UB	88125	CPMSO2	AAA8	LT	7.460	UGL
	UB	88125	DBCP	AY8	LT	0.195	UGL
	UB	88125	DCPD	P8	LT	5.000	UGL
	UB	88125	DIMP	AW8A		10.900	UGL
	UB	88125	DLDRN	KK8	LT	0.050	UGL
	UB	88125	ENDRN	KK8	LT	0.050	UGL
PNDW18	UB	88125	ALDRN	KK8	LT	0.050	UGL
	UB	88125	CPMS	AAA8	LT	5.690	UGL
	UB	88125	CPMSO	AAA8	LT	11.500	UGL
	UB	88125	CPMSO2	AAA8	LT	7.460	UGL

USER NO.	ORG.	SAMPLE DATE	ANALYTE	MTH NO.	BL	CONC.	UOM
PNDW18	UB	88125	DBCP	AY8	LT	0.195	UGL
	UB	88125	DCPD	P8	LT	5.000	UGL
	UB	88125	DIMP	AW8A		11.700	UGL
	UB	88125	DLDRN	KK8	LT	0.050	UGL
	UB	88125	ENDRN	KK8	LT	0.050	UGL
PNDW19	UB	88125	ALDRN	KK8	LT	0.050	UGL
	UB	88125	CPMS	AAA8	LT	5.690	UGL
	UB	88125	CPMSO	AAA8	LT	11.500	UGL
	UB	88125	CPMSO2	AAA8	LT	7.460	UGL
	UB	88125	DBCP	AY8		0.407	UGL
	UB	88125	DCPD	P8	LT	5.000	UGL
	UB	88125	DIMP	AW8A		4.860	UGL
	UB	88125	DLDRN	KK8		0.090	UGL
	UB	88125	ENDRN	KK8		0.042	UGL
PNDW20	UB	88125	ALDRN	KK8	LT	0.050	UGL
	UB	88125	CPMS	AAA8	LT	5.690	UGL
	UB	88125	CPMSO	AAA8	LT	11.500	UGL
	UB	88125	CPMSO2	AAA8	LT	7.460	UGL
	UB	88125	DBCP	AY8		0.238	UGL
	UB	88125	DCPD	P8	LT	5.000	UGL
	UB	88125	DIMP	AW8A		3.540	UGL
	UB	88125	DLDRN	KK8		0.225	UGL
	UB	88125	ENDRN	KK8		0.056	UGL
PNDW21	UB	88132	ALDRN	KK8	LT	0.050	UGL

USER NO.	ORG.	SAMPLE DATE	ANALYTE	MTH NO.	BL	CONC.	UOM
PNDW21	UB	88132	CL	HH8A		120	MGL
	UB	88132	CPMS	AAA8	LT	5.690	UGL
	UB	88132	CPMSO	AAA8	LT	11.500	UGL
	UB	88132	CPMSO2	AAA8	LT	7.460	UGL
	UB	88132	DBCP	AY8		0.222	UGL
	UB	88132	DCPD	P8	LT	5.000	UGL
	UB	88132	DIMP	AW8A		3.890	UGL
	UB	88132	DLDRN	KK8		0.241	UGL
	UB	88132	ENDRN	KK8	LT	0.050	UGL
	UB	88132	F	HH8A		2.230	MGL
PNDW22	UB	88132	ALDRN	KK8	LT	0.050	UGL
	UB	88132	CL	HH8A		94.000	MGL
	UB	88132	CPMS	AAA8	LT	5.690	UGL
	UB	88132	CPMSO	AAA8	LT	11.500	UGL
	UB	88132	CPMSO2	AAA8	LT	7.460	UGL
	UB	88132	DBCP	AY8	LT	0.195	UGL
	UB	88132	DCPD	P8	LT	5.000	UGL
	UB	88132	DIMP	AW8A		1.640	UGL
	UB	88132	DLDRN	KK8		0.204	UGL
	UB	88132	ENDRN	KK8		0.079	UGL
	UB	88132	F	HH8A		1.980	MGL
PNDW23	UB	88132	ALDRN	KK8	LT	0.050	UGL
	UB	88132	CL	HH8A		100.000	MGL
	UB	88132	CPMS	AAA8	LT	5.690	UGL

USER NO.	ORG.	SAMPLE DATE	ANALYTE	MTH NO.	BL	CONC.	UOM
PNDW23	UB	88132	CPMSO	AAA8	LT	11.500	UGL
	UB	88132	CPMSO2	AAA8	LT	7.460	UGL
	UB	88132	DBCP	AY8	LT	0.195	UGL
	UB	88132	DCPD	P8	LT	5.000	UGL
	UB	88132	DIMP	AW8A		1.660	UGL
	UB	88132	DLDRN	KK8	LT	0.050	UGL
	UB	88132	ENDRN	KK8	LT	0.050	UGL
	UB	88132	F	HH8A		2.230	MGL
PNDW24	UB	88132	ALDRN	KK8	LT	0.050	UGL
	UB	88132	CL	HH8A		110	MGL
	UB	88132	CPMS	AAA8	LT	5.690	UGL
	UB	88132	CPMSO	AAA8	LT	11.500	UGL
	UB	88132	CPMSO2	AAA8	LT	7.460	UGL
	UB	88132	DBCP	AY8	LT	0.195	UGL
	UB	88132	DCPD	P8	LT	5.000	UGL
	UB	88132	DIMP	AW8A		0.941	UGL
	UB	88132	DLDRN	KK8		0.101	UGL
	UB	88132	ENDRN	KK8	LT	0.050	UGL
	UB	88132	F	HH8A		2.530	MGL
PNDW25	UB	88132	ALDRN	KK8	LT	0.050	UGL
	UB	88132	CL	HH8A		110	MGL
	UB	88132	CPMS	AAA8	LT	5.690	UGL
	UB	88132	CPMSO	AAA8	LT	11.500	UGL
	UB	88132	CPMSO2	AAA8	LT	7.460	UGL

USER NO.	ORG.	SAMPLE DATE	ANALYTE	MTH NO.	BL	CONC.	UOM
PNDW25	UB	88132	DBCP	AY8	LT	0.195	UGL
	UB	88132	DCPD	P8	LT	5.000	UGL
	UB	88132	DIMP	AW8A		1.470	UGL
	UB	88132	DLDRN	KK8	LT	0.050	UGL
	UB	88132	ENDRN	KK8	LT	0.050	UGL
	UB	88132	F	HH8A		2.710	MGL
PNDW26	UB	88139	ALDRN	KK8	LT	0.050	UGL
	UB	88139	CL	HH8A		94.000	MGL
	UB	88139	CPMS	AAA8	LT	5.690	UGI
	UB	88139	CPMSO	AAA8	LT	11.500	UGL
	UB	88139	CPMSO2	AAA8	LT	7.460	UGL
	UB	88139	DBCP	AY8	LT	0.195	UGL
	UB	88139	DCPD	P8	LT	5.000	UGL
	UB	88139	DIMP	AW8A		1.410	UGL
	UB	88139	DLDRN	KK8	LT	0.050	UGL
	UB	88139	ENDRN	KK8	LT	0.050	UGL
	UB	88139	F	HH8A		2.530	MGL
PNDW27	UB	88139	ALDRN	KK8	LT	0.050	UGL
	UB	88139	CL	HH8A		120	MGL
	UB	88139	CPMS	AAA8	LT	5.690	UGL
	UB	88139	CPMSO	AAA8	LT	11.500	UGL
	UB	88139	CPMSO2	AAA8	LT	7.460	UGL
	UB	88139	DBCP	AY8	LT	0.195	UGL
	UB	88139	DCPD	P8	LT	5.000	UGL

USER NO.	ORG.	SAMPLE DATE	ANALYTE	MTH NO	BL	CONC.	UOM
PNDW27	UB	88139	DIMP	AW8A		1.270	UGL
	UB	88139	DLDRN	KK8	LT	0.050	UGL
	UB	88139	ENDRN	KK8	LT	0.050	UGL
	UB	88139	F	HH8A		2.900	MGL
PNDW28	UB	88139	ALDRN	KK8	LT	0.050	UGL
	UB	88139	CL	HH8A		320	MGL
	UB	88139	CPMS	AAA8	LT	5.690	UGL
	UB	88139	CPMSO	AAA8	LT	11.500	UGL
	UB	88139	CPMSO2	AAA8	LT	7.460	UGL
	UB	88139	DBCP	AY8	LT	0.195	UGL
	UB	88139	DCPD	P8	LT	5.000	UGL
	UB	88139	DIMP	AW8A	LT	0.650	UGL
	UB	88139	DLDRN	KK8	LT	0.050	UGL
	UB	88139	ENDRN	KK8	LT	0.050	UGL
	UB	88139	F	HH8A		4.670	MGL